

UNITED STATES BANKRUPTCY COURT
FOR THE NORTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION

_____)	
IN RE:)	
)	
JEFFERSON COUNTY, ALABAMA	)	CASE NO.: 11-05736-TBB9
)	
Debtor.	)	CHAPTER 9
)	
_____)	

NOTICE OF FILING COUNTY EXHIBIT C.344 (PART 3 OF 6)

Jefferson County, Alabama, the debtor in the above-referenced case (the “County”), submits the following exhibits for the plan confirmation hearing set by the Court’s *Order Continuing Confirmation Hearing and Extending Related Deadlines* [Docket No. 2169], which is scheduled to commence on November 20, 2013 at 10:00 a.m.:

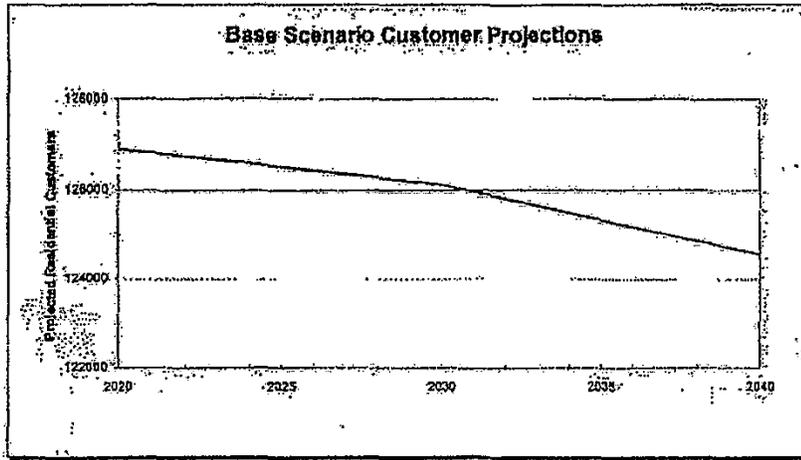
1. *Ratemaking Record* of Jefferson County [County’s Exhibit No. **C.344**] (PART 3 OF 6).

Respectfully submitted this 15th day of November, 2013.

/s/ James B. Bailey
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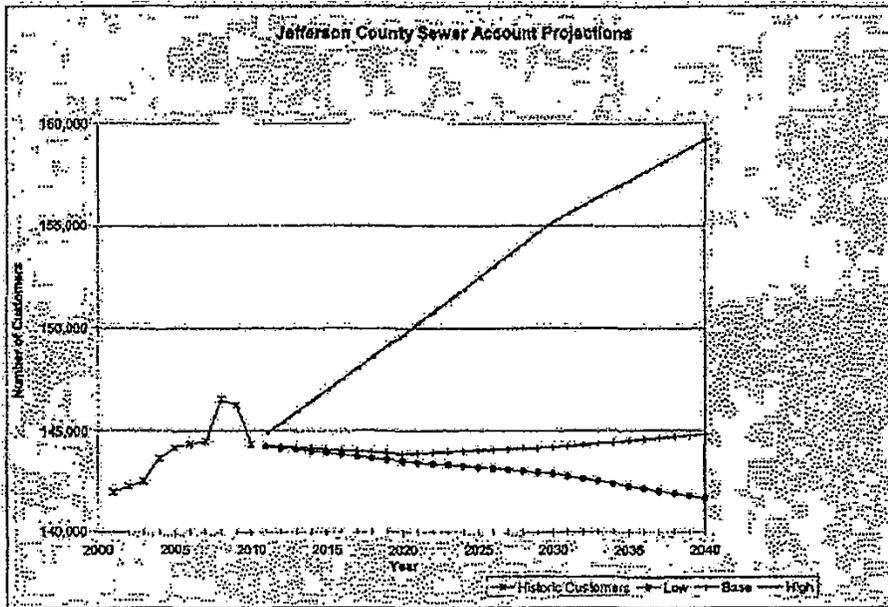
Figure 6 - Base Scenario Residential Customer Projections



A key factor underlying the growth assumptions is that existing homes, and future new housing near sewer lines, are not being required to connect to the sewer system. If legislation is enacted requiring mandatory connection for existing homes and new construction located near existing sewer lines, an additional 7,500 residential customers could be added, and the decline in customers projected in the base case would reverse, as shown in the graph below comparing the low, base, and high scenarios:¹⁰⁰

¹⁰⁰ *Id.* at 19-20, Exhibit 5.

Figure 7 - Sewer Account Projections



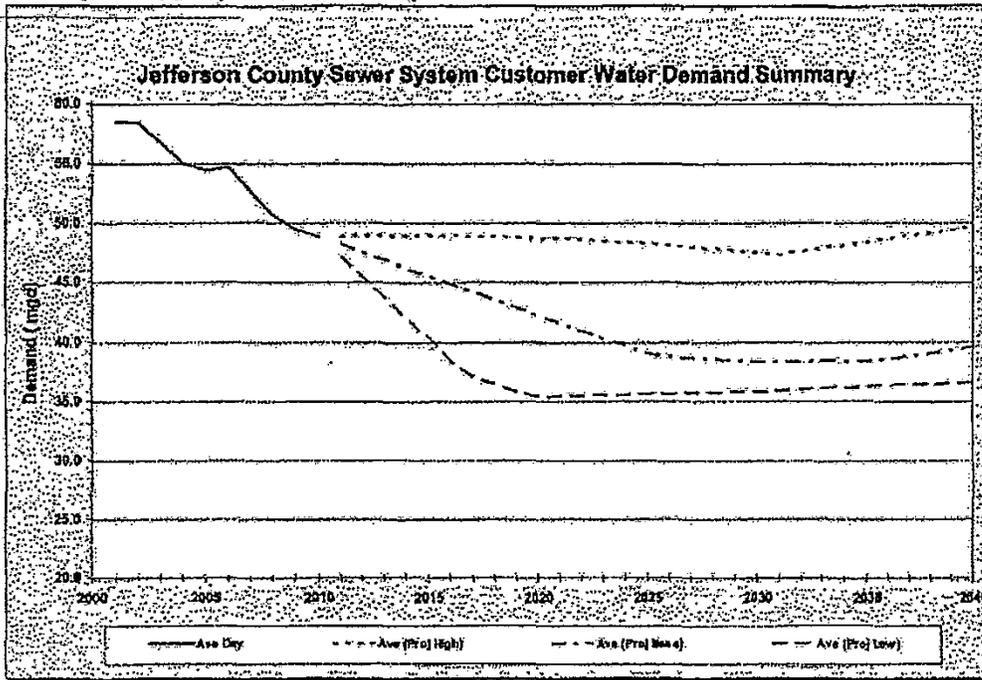
The base residential usage per account was forecast assuming future per capita use will decline at a linear rate of 1.28% per year. This decline in usage is based on the trend American Water has experienced in water systems it has owned or operated over the past ten years. This trend was used because it represents a broad cross-section of customers including water systems that serve areas similar to Jefferson County, and because it is not reasonable to expect the steeper trend experienced within Jefferson County to continue. In addition, American Water is an investor-owned, regulated public utility with water rates that must be adjusted periodically to reflect the full cost of service. Therefore, American Water's experience accounts for effects of elasticity due to rate increases in addition to other national water use trends. Non-residential usage per account was forecast using similar methodology.¹¹¹

In summary, the Demand Study projects a declining trend in per account water demand and a decline in sewer customers, which should result in a base average daily demand forecast for 2040 of approximately 39.6 million gallons per day ("mgd") compared to the 2010 average day demand of 48.87 mgd, as demonstrated in the graph below.¹¹²

¹¹¹ *Id.* at 22.

¹¹² *Id.* at Exhibit 6.

Figure 3 - Summary of Water Demand Projections



In the absence of rate increases, rate structure changes, or new revenue sources, the System will experience a severe decline in annual revenue from what exists today as a result of declines in population and overall water demand. Total revenues generated under existing rates are projected to decrease from approximately \$155 million in 2011 to approximately \$145 million in 2016. Even if System costs do not increase at all, sewer user charges will need to be increased 6.45% over the next five years just to account for the drop in revenues as a result of decline in customers and usage.¹⁴³

2. *Non-Rate System Revenues Will Not Increase.*

Non-rate revenues comprise a very small portion of total System revenues, approximately \$10.6 million in 2011.¹⁴⁴ Non-rate revenue sources include the annual sewer ad valorem tax, and a small amount of revenue from miscellaneous charges such as impact fees, surcharge fees, and

¹⁴³ B&V Cost Allocation Study at Table 2-4. The B&V Cost Allocation Study is discussed in more detail in Section VI *infra*.

¹⁴⁴ B&V Cost Allocation Study at Table 2-5.

miscellaneous permit fees. Among these non-rate revenue sources, the sewer ad valorem tax generates the most revenue, approximately \$5.7 million per year.¹⁸⁵

The state legislature sets the level of the ad valorem tax. From its establishment in 1901 until 1978, the sewer ad valorem tax was set at 0.5 mills (5 cents on each \$100 of the percentage of assessed property value subject to taxation). In 1978, the rate was adjusted to 0.7 mills solely to account for potential losses from Amendment 373 to the state constitution, which set new limits on the percentage of property value subject to taxation.¹⁸⁶ Aside from this adjustment, the ad valorem tax has not been increased since its establishment in 1901.

In 2003, the County's consultant BE&K noted that the County's total ad valorem taxes were 40% lower than the mean total ad valorem taxes of 31 similar municipalities.¹⁸⁷ BE&K recommended that the County seek legislative authority to increase the ad valorem tax by approximately 7 mills, which would generate approximately \$44 million in additional annual revenue, with only a marginal increase in total resident tax burden. Even with the 7-mill increase, total resident tax burden in Jefferson County would still remain lower than many other areas.¹⁸⁸ As BE&K noted, increasing the ad valorem tax would result in lower future sewer rate increases and would more equitably spread the burden of paying for the System among all those who benefit from the System, which the Alabama Supreme Court found in *Keene v. Jefferson County*, 33 So. 435 (Ala. 1903), includes all residents of Jefferson County.¹⁸⁹ The County did not pursue BE&K's recommendation.

Absent a change from the state legislature, the sewer ad valorem tax will remain at the current 0.7 mills level, only slightly above the level first authorized in 1901. In addition, the System revenues generated from both the ad valorem tax and the remaining miscellaneous charges are both impacted by customer growth. As explained in the Demand Study, the System is not projected to experience customer growth; instead, the number of System customers is expected to decline. Therefore, the System's total non-rate revenues are not expected to increase significantly above the current level of approximately \$10.6 million per year.

C. The System's Future Debt Service Costs Are Unknown.

The amount of the necessary revenue increase is determined by the System's revenue requirement. A utility's revenue requirement is the amount of revenue necessary to meet the utility's costs of providing service. In simplest terms, the revenue requirement is the sum of the following costs: (1) O&M expenses; plus (2) required capital expenditures; plus (3) debt service costs (required principal and interest payments and specified reserves). As discussed in the previous sections, the Receiver has determined the System's projected O&M expenses will decline in the short-term and then level out, and the System's required capital expenditures will increase. The Receiver also has determined that based on the Demand Study and an examination of non-rate revenues, total System revenues will decline without rate increases or other sources of revenue. At this time, however, the System's future total debt costs are uncertain.

¹⁸⁵ *Id.*

¹⁸⁶ FARCA Report at Appx. D, p.3.

¹⁸⁷ BE&K Report at 13-2.

¹⁸⁸ *Id.* at 13-3.

¹⁸⁹ *Id.* at 13-2.

To determine the revenue required to refinance the entire approximately \$3.158 billion of System debt currently outstanding, the Receiver asked B&V to prepare an analysis of total revenues required to pay all of the System's costs, including the annual debt service costs and coverage requirements for the next five years. The analysis assumes refinancing of the entire \$3.158 billion at current market rates, and that sewer revenues would increase uniformly for three years. As shown in the table below, in just the first five years, sewer user charges would have to be increased a total of 220%, with a 50.2% increase in 2012; another 42.7% in 2013; and a third 42.7% in 2014, followed by smaller increases the remaining two years.¹⁹⁰

Table 5 - Revenue Requirements Assuming Refinancing of \$3.158 Billion at Current Fixed Market Rates

Line No.	Description	Projected					
		2011	2012	2013	2014	2015	2016
1	Beginning Operating Fund Balance	\$ 4,197,000	\$ 19,639,000	\$ 42,616,000	\$ 55,763,000	\$ 124,002,000	\$ 193,806,000
Revenues:							
Revenue from Rates							
2	Revenue Under Existing Rates	\$ 152,777,000	\$ 150,746,000	\$ 148,723,000	\$ 146,726,000	\$ 144,757,000	\$ 142,814,000
3	Grass	136,000	134,000	132,000	130,000	128,000	126,000
4	Septage	398,000	398,000	398,000	398,000	398,000	398,000
5	Industrial Discharge	1,468,000	1,468,000	1,468,000	1,468,000	1,468,000	1,468,000
6	Subsidies	\$ 154,881,000	\$ 152,754,000	\$ 150,727,000	\$ 148,730,000	\$ 146,751,000	\$ 144,818,000
7	Additional Revenue From Rate Increases	-	76,230,000	166,279,000	234,817,000	305,870,000	317,267,000
8	Total Revenue from Rates	\$ 154,881,000	\$ 223,984,000	\$ 315,006,000	\$ 441,557,000	\$ 452,581,000	\$ 462,085,000
9	Other Operating Revenues	4,735,000	4,730,000	4,694,000	4,629,000	4,555,000	4,481,000
10	Non-Operating Revenues	5,812,000	5,528,000	5,218,000	5,131,000	5,064,000	4,976,000
11	Total Revenues	\$ 165,428,000	\$ 235,242,000	\$ 325,928,000	\$ 451,327,000	\$ 462,200,000	\$ 472,048,000
Revenue Requirements:							
12	DBM Expenses	\$ 67,851,000	\$ 69,127,000	\$ 68,337,000	\$ 69,153,000	\$ 69,786,000	\$ 70,321,000
Debt Service Requirements:							
13	Existing Debt Service	-	-	-	-	-	-
14	Senior Lien Debt	81,736,000	81,492,000	130,321,000	394,581,000	199,022,000	202,499,000
15	Subordinate Lien Debt	-	55,632,000	95,893,000	179,723,000	137,681,000	135,236,000
16	Total Existing Debt	\$ 81,736,000	\$ 137,124,000	\$ 226,214,000	\$ 574,304,000	\$ 336,703,000	\$ 337,735,000
17	Proposed Future Debt Service	-	-	-	-	-	-
18	Total Debt Service	\$ 81,736,000	\$ 137,124,000	\$ 226,214,000	\$ 574,304,000	\$ 336,703,000	\$ 337,735,000
19	Capitalized Labor	-	(7,981,000)	(3,085,000)	(3,193,000)	(3,205,000)	(3,221,000)
20	Delinquent/Uncollectible Accts	3,218,000	6,811,000	7,825,000	8,831,000	9,812,000	10,792,000
21	Transfer to Construction Fund	-	7,911,000	35,002,000	-	-	-
22	Total Revenue Requirements	\$ 149,933,000	\$ 210,742,000	\$ 315,281,000	\$ 389,298,000	\$ 397,596,000	\$ 406,243,000
23	Annual Operating Balance	\$ 15,495,000	\$ 22,896,000	\$ 13,147,000	\$ 68,239,000	\$ 69,104,000	\$ 71,424,000
24	End of Year Balance	\$ 19,639,000	\$ 42,616,000	\$ 55,763,000	\$ 124,002,000	\$ 193,806,000	\$ 265,226,000
25	Minimum Required Operating Balance	\$ 10,332,000	\$ 9,884,000	\$ 9,599,000	\$ 9,577,000	\$ 9,894,000	\$ 10,247,000
Debt Service Coverage:							
26	Senior Lien Debt Service Coverage	119%	200%	201%	208%	209%	209%
27	Minimum Required	200%	200%	200%	200%	200%	200%
28	Total Debt Service Coverage	119%	129%	123%	123%	120%	124%
29	Minimum Required	120%	120%	120%	120%	120%	120%
Projected Revenue Increases							
30	Annual	0.0%	50.2%	42.7%	42.7%	0.3%	0.3%
31	Cumulative	0.0%	50.2%	114.3%	205.9%	208.6%	210.6%

The rate increases identified in the table above have the potential to cause significant rate shock to many residential customers, and in the Receiver's judgment, should not be implemented at this time. However, this scenario reveals the serious nature of the current funding deficit and the importance of reaching a negotiated solution to the debt crisis.

¹⁹⁰ B&V Cost Allocation Study at Table 4-1.

V. The Planned Interim Rate Increase.

As outlined in the previous sections of this report, a review of the System's current financial condition clearly demonstrates the need for an immediate rate increase. System revenues are declining each year due to declining customers and demand, while the System faces substantial operating and capital costs necessary to provide reliable service and maintain regulatory compliance. The System has never been adequately funded dating back to its creation in 1901. This longstanding failure to adequately fund the System ultimately led to entry of the Consent Decree. Following entry of the 1996 Consent Decree, the County ignored multiple warnings and recommendations from its own consultants and repeatedly refused to implement rate increases necessary to pay the massive debt it incurred. Rate increases fell below recommended levels as early as 2003, and there have been no rate increases at all since 2008. Currently, the only option available to the Receiver to increase revenues is through increases to sewer user charges. Regardless of how and at what amount the existing \$3.158 billion in outstanding debt is restructured or refinanced, it is clear that revenues must be increased.

The Receiver has determined that an interim rate increase sufficient to increase revenues by 25% is appropriate. This planned rate increase is intended to be a first significant step towards a resolution of the System's overall debt crisis. The County effectively destroyed its reputation in the capital markets when it defaulted on the warrants and exacerbated problems when it suspended the Rate Covenant and decided that it would not raise sewer rates to address the System's debt crisis. If the County is to restore its credibility in the country's capital markets, which is essential for purposes beyond the System (e.g., schools, roads, and any number of other capital needs of the County), it must be seen as taking steps to repay its debt. This rate increase will be a first step in that process.

As noted throughout this report, a negotiated solution to the System's debt crisis is in the best interest of all stakeholders – the County, its citizens, the ratepayers, and the County's creditors – and would give all parties the best possible solution. The County's best possibility of managing future rate increases and having a viable wastewater system is to achieve a negotiated solution – this solution will almost certainly involve significant rate increases, regardless of what the elected officials of the County may feel inclined to tell their constituents. The surest path for the various creditors groups to protect their investment is to strike a deal with the County – that deal will almost certainly involve significant concessions as to the principal amount owed by the County. At the heart of any bargain, which is what the County and its creditors need to reach, are unpopular or unpalatable concessions by both sides to reach a result that benefits both parties and is more favorable than the result both sides would otherwise have been likely to achieve in the absence of the bargain.

In the meantime, the Receiver intends to implement multiple rate increases until System revenues are sufficient. The County, for the better part of a decade, has charged System customers rates that were insufficient to maintain the long term financial health of the System (in much the same manner it has for most of the System's existence), and it has not raised rates at all since 2008.¹⁹¹ Rates *must* be raised now, and must continue to increase in the future until revenues reach the level sufficient to support the System's operations, maintain the System's

¹⁹¹ Several current County Commissioners have publicly stated that they will not consider any rate increases.

infrastructure, and satisfy its debt obligations (either its current debt obligations or whatever those debt obligations may turn out to be through some resolution).

The following sections describe the significant factors the Receiver relied upon to reach the determination that a 25% interim rate increase is the appropriate first step.

A. The 25% Revenue Increase is Less than the 32% Increase that Would Have Been Required Under the Lookback Analysis Assuming the County Had Financed All Debt with Fixed Rate Financing.

The County's 2008 default under the Indenture was precipitated principally by the collapse of the refinancing transactions the County entered into in 2002 and 2003. As previously discussed, by 2002, the County had borrowed billions of dollars to finance improvements necessary to comply with the 1996 Consent Decree, and needed still more money to complete the compliance plan. In order to postpone the necessary rate increases as long as possible, the County used an extremely back-loaded financing structure which called for significantly escalating increases in debt service requirements in later years. The County borrowed the first several years of interest payments, and in 2002 and 2003, that additional borrowing began to come due, and the revenues required to meet the current debt service payments increased. Instead of raising rates to the levels required to begin paying down the debt, the County took on even more risk in an attempt to postpone the inevitable rate increases even further. In an ultimately unsuccessful and risky attempt to minimize the rising costs of servicing the substantial amount of debt and keep sewer rates artificially as low as possible, the County refinanced most of its fixed rate debt into auction and variable rate debt in 2002 and 2003. To offset its debt service payments, the County also entered into several interest rate swaps as a hedge against market interest rate exposure.

Much of the media attention surrounding the sewer debt crisis has focused on the 2002 and 2003 refinancing and swap transactions, and the alleged financial fraud and wrongdoing surrounding those transactions.¹⁹² The collapse of these 2002 and 2003 refinancing transactions was the first in a series of events that largely determined the timing of the County's default in 2008. In order to gauge the impact of these 2002-2003 refinancing transactions as compared to the larger overall financial impact of the Consent Decree capital program on rates, the Receiver engaged B&V to provide a "Lookback Analysis." A copy of the B&V report on the Lookback Analysis is included in the Appendix at A-19. The purpose of this Lookback Analysis was to determine the approximate level of revenue from sewer user charges that would be required to meet outstanding debt obligations if the County had not entered into the 2002-2003 auction, variable rate, and swap transactions, but instead had continued to fund the System's capital program with fixed rate bonds like those originally issued between 1997 and 2002.

The B&V Lookback Analysis assumed that fixed rate bond issuances implemented from 1997 through FY 2001 remained in place and were not refinanced with variable rate financing in 2002-2003. The Lookback Analysis also assumed that all additional funds needed for financing of capital projects in 2002 and 2003 were also financed through fixed rate bonds at then-prevailing interest rates. The result of the Lookback Analysis is an indication of the level of rate

¹⁹² The swap agreements have since been terminated.

increases that would have been required from 2002 to 2010 to fund the capital program using only fixed rate bond issuances, and without any of the 2002-2003 variable rate, auction rate, or swap transactions.

B&V examined the actual revenues produced under the rates in place for each year from 2002 to 2010, and compared that revenue to the actual annual operation and maintenance expenses and debt service costs that would have been incurred by the System for the same period using fixed rate financing. B&V then calculated the additional debt service costs from the hypothetical fixed rate financing the County would need to obtain the additional funds the System borrowed from 2002-2010.

Table 6 - Lookback Analysis: Revenue Requirements Assuming All Fixed Rate Financing

Line No.	Description	2002	2003	2004	2005	2006	2007	2008	2009	2010
		\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
1	Beginning Operating Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenues:										
Revenue from Rates:										
2	Revenue under Existing Rates	\$ 76,956	\$ 76,956	\$ 76,956	\$ 76,956	\$ 76,956	\$ 76,956	\$ 76,956	\$ 76,956	\$ 76,956
3	Additional Rev. From Rate Incr.	84,082	89,961	89,961	97,068	136,460	136,460	136,460	136,460	136,460
4	Total Revenue from Rates	\$ 161,038	\$ 166,917	\$ 166,917	\$ 174,024	\$ 213,416	\$ 213,416	\$ 213,416	\$ 213,416	\$ 213,416
5	Other Revenue	13,896	15,255	15,565	19,044	17,118	17,713	19,994	19,528	19,248
6	Total Revenues	\$ 174,934	\$ 182,172	\$ 182,482	\$ 193,068	\$ 230,534	\$ 231,129	\$ 233,410	\$ 232,944	\$ 232,664
Revenue Requirements:										
7	O&M Expenses	\$ 40,555	\$ 42,104	\$ 43,185	\$ 44,792	\$ 46,950	\$ 48,533	\$ 51,984	\$ 54,758	\$ 57,362
Debt Service Requirements										
8	Existing Debt Service	104,216	108,369	97,196	102,914	100,481	97,498	97,486	97,486	97,484
9	Proposed Future Debt Service	-	-	-	37,043	80,063	80,063	80,063	80,063	80,063
10	Total Debt Service	\$ 104,216	\$ 108,369	\$ 97,196	\$ 139,957	\$ 180,544	\$ 177,561	\$ 177,549	\$ 177,549	\$ 177,547
11	Transfers to (from) Rate Spk. Fund	28,113	32,714	32,714	8,309	-	-	-	-	-
12	Transfer to Depreciation Fund	-	-	3,785	-	-	4,245	3,878	637	3,755
13	Cost Funded Capital Outlay	-	-	-	-	-	-	-	-	-
14	Total Revenue Requirements	\$ 172,864	\$ 181,182	\$ 182,892	\$ 193,068	\$ 230,534	\$ 231,129	\$ 233,410	\$ 232,944	\$ 232,664
15	Annual Operating Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
16	End of Year Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Calculated Required Revenue Increase:										
17	Annual	109.3%	17%	10%	4.3%	22.6%	0.0%	0.0%	0.0%	0.0%
18	Cumulative ^(a)	109.3%	116.9%	116.9%	126.1%	177.3%	177.3%	177.3%	177.3%	177.3%
Actual Implemented Revenue Increase:										
19	Annual	17.3%	38.6%	10.0%	10.0%	7.1%	8.2%	7.7%	8.0%	0.0%
20	Cumulative ^(a)	17.3%	61.6%	79.1%	97.0%	111.0%	128.3%	145.9%	145.9%	145.9%

(a) Reflects the cumulative effect of previous revenue increases, as compared to revenues in FY 2001.

The Lookback Analysis reveals that the current System funding deficit was not solely or even primarily caused by the 2002-2003 refinancing transactions. The County's expenditures to comply with the Consent Decree have resulted in one of the highest, if not the highest, investment rate per customer for a major wastewater system anywhere in the country. The

Lookback Analysis also demonstrates that the funding deficit is the result of the County's long-standing failure to raise rates to levels sufficient to meet the System's obligations. This reinforces the need for an immediate increase in System revenues to begin the process of bringing revenues up to required levels.

The B&V Lookback Analysis calculated the level of rate increases that would have been required if the County had not refinanced its fixed rate debt in 2002-2003 with variable rate and auction rate debt, and had instead used all fixed rate financing to pay for the improvement program the County implemented to comply with the Consent Decree. This Lookback Analysis thus provides the level of rate increases that would have been required through 2010 without the 2002-2003 variable rate transactions. The Lookback Analysis shows that even without the 2002-2003 refinancing transactions, revenues today would need to be 31.5% higher in order to meet the minimum level required to comply with the County's contractual obligation to raise rates to levels necessary to fund the fixed rate debt it incurred. By not raising rates to at least 2010 levels necessary to support fixed rate financing, the County fell further behind by approximately \$325 million in funding the System's requirements, and the customers avoided paying \$325 in additional sewer user fees.

The Lookback Analysis only examines a fixed period of time from 2003 to 2010. Both the County's actual variable rate financing plans and the hypothetical fixed rate financing scenario used in the Lookback Analysis were based on a back-loaded structure that called for escalating future increases in total debt costs. Therefore, following the 31.5% increase necessary to bring revenues up to 2010 required levels, significant future rate increases would also be necessary under both scenarios.

Although not the sole criteria, the fact that the Receiver's planned first revenue increase of 25% is less than what would be required to bring the rates up to minimum 2010 levels in the Lookback Analysis provides additional support that the 25% revenue increase is a reasonable and appropriate first step.

B. System User Charges Have Not Been Increased Since January 2008 and the 25% Revenue Increase is an Appropriate Make-Up for Not Having Increased Rates Over the Past Few Years.

Sewer user charges have not been increased at all since January 2008, over three years ago. A gauge of the level of rate increases experienced by other public wastewater systems over this same time period can be found in the 2010 Service Charge Index prepared by the National Association of Clean Water Agencies ("NACWA"). NACWA is an industry group comprised of over 300 of the largest public wastewater systems in the country. Each year since 1985, NACWA has collected financial and rate information from its members and published the results in a Service Charge Index that calculates average rate increases for each year. A copy of the 2010 NACWA Service Charge Index is included in the Appendix at A-20.

The 2010 NACWA Service Charge Index indicates that over the past five years, sewer rates have risen on average 6% per year. If System rates had increased at that same rate in January of 2009, 2010, and 2011, respectively, the total cumulative rate increase for those three years would be 19.1%. Based on this industry-wide average, the Receiver's recommended first

revenue increase of 25% is within the range of the increase needed to make up for the failure to raise rates in 2009, 2010, and 2011, even before consideration of the extreme capital requirements and O&M needs of the System compared to other wastewater utilities.

C. The 25% Revenue Increase Will Not Cause Significant Rate Shock as Compared with Rate Increases Imposed by Other Utilities within the Last Few Years.

Based on 2010 billing data, the average residential customer of the System with the standard 5/8-inch meter uses approximately 6 Ccf of water per month. Based on that water usage, the same customer would receive an average monthly sewer bill of \$37.74 per month under existing rates.¹⁹³ With the Receiver's planned 25% revenue increase, this customer's average monthly bill will increase to \$46.88, which is an increase of \$9.14, or 24.2%.¹⁹⁴ This level of increase should not cause significant rate shock because it is within the range of the prior System rate increases in 2001 (21.4%) and 2003 (38.8%).

A rate increase that impacts the average residential bill by \$9.14 or 24.2%, as the planned 25% revenue increase does, is also within the range of rate increases imposed by other utilities over the past few years.¹⁹⁵

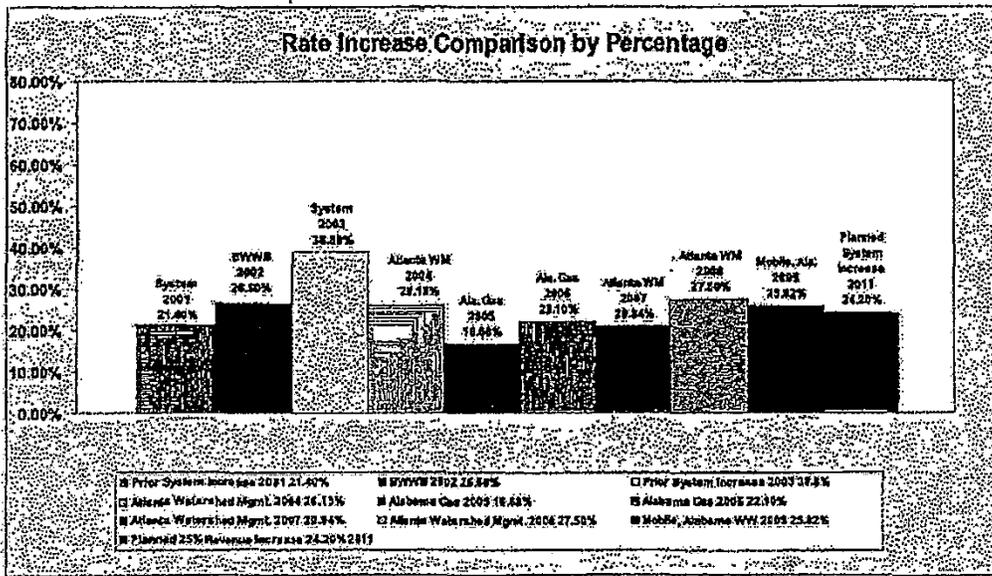
The chart below demonstrates that the 24.2% impact of the Receiver's planned rate increase is within the range of percentage increases imposed in recent years by other utility providers in Alabama and the Atlanta Watershed Management Authority, the wastewater provider for the Atlanta area that is also operating under a Consent Decree.

¹⁹³ B&V Cost Allocation Study at 21. The \$37.74 is calculated by multiplying the current \$7.49 Ccf rate for 5/8 meters by 85% of the total 6 Ccf usage (5.1 Ccf). Variances in meter size, usage, and rounding by water providers may produce different results for particular customers.

¹⁹⁴ *Id.*

¹⁹⁵ This information was gathered through contacts with the various utilities named and through publicly-available information.

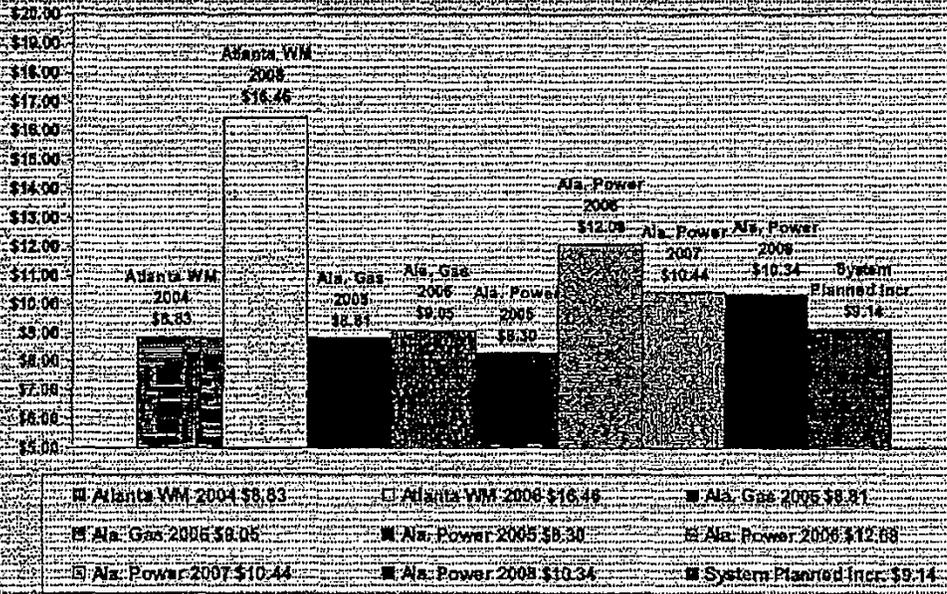
Figure 9 - Rate Increase Comparison by Percentage



The \$9.14 impact of the Receiver's planned rate increase is also within the range of dollar increases implemented in recent years by other Alabama utilities and by Atlanta Watershed Management, as shown in the chart below:

Figure 10 - Rate Increase Comparison by Utility

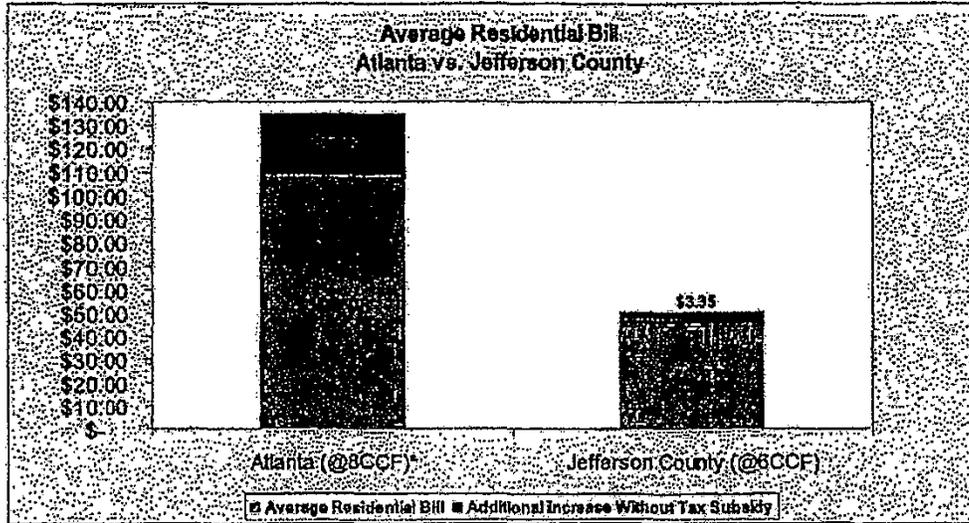
Rate Increase Comparison by Utility



This information regarding other utilities' rate increases in recent years confirms that the impact of the planned 25% revenue increase on the average residential bill is not so large as to cause significant rate shock. This rate increase will obviously have an impact on System ratepayers but is ultimately necessary to begin the process of addressing the System's debt problems and capital needs.

While direct comparisons between different utility rates are problematic due to the number of different factors that must be considered to reach an apples to apples comparison including operating costs, capital requirements, and other socio-economic factors, the Receiver has conducted a comparison between System rates and the wastewater rates charged by the Atlanta Department of Watershed Management. Both Atlanta and the System are wastewater systems serving major cities in the southeast, and both systems are currently under EPA consent decrees. Both systems are also subsidized by additional sources of tax revenue in addition to revenue from user fees. As shown in the graph below, the average residential bill in Atlanta is substantially higher than the average residential bill for the System following the Receiver's 25% revenue increase, and the discrepancy becomes even greater once you consider the subsidies in each System.

Figure 11 - Comparison of Average Residential Bill in Atlanta and Jefferson County



D. The 25% Revenue Increase Meets the Legal Requirement of Reasonableness and is Within the Range of Acceptable Financial Impact Analysis.

I. The Interim Rate Increase is Reasonable Under Alabama Law.

Any increase in rates must comply with legal standards of reasonableness. Amendment 73 to the Alabama Constitution requires that the rules and regulations fixing rates and charges of the sewer System must be reasonable and non-discriminatory. Alabama case law is primarily concerned with uniformity and the absence of discrimination between rate classes. Cost of service is a very important factor, and most reported rate challenges have involved instances where the rate was actually generating a surplus for the utility. See, e.g., *Marshall Durbin & Co. of Jasper, Inc. v. Jasper Util. Bd. of City of Jasper*, 437 So. 2d 1014 (Ala. 1983), overruled on other grounds, *Ex parte Water Jet Sys., Inc.*, 758 So. 2d 505 (Ala. 1999). Rates high enough to generate a surplus are not *per se* unreasonable or confiscatory. See, e.g., *Campbell v. Water Works & Sanitary Sewer Bd. of City of Montgomery*, 115 So. 2d 519 (Ala. 1959).

The Receiver Order confirmed that the sewer debt, and its corresponding service requirement, is an obligation of the System. It is undisputed that the System is not currently generating a surplus. The interim rate increase the Receiver intends to implement will not generate revenues high enough to earn a surplus (or even satisfy all of the System's current

operational and debt service needs), as the numerous studies discussed in this report, including the B&V reports, establish.

No reported Alabama cases have directly addressed the concept of financial impact in considering the reasonableness of utility rates. Nevertheless, the impact of the rate increase on consumers has been considered by the Receiver. The initial rate increase is designed to be substantial enough to allow the System to make significant progress towards eliminating the substantial funding deficit, but not so large as to cause rate shock or further destabilize the System revenues. The Receiver intends to monitor the impact of this first interim rate increase on System revenues, both positive and negative, and take that impact into consideration in determining the level of future rate increases.

2. *According to the EPA Financial Impact Guidelines, the Rate Increase Will Not Have a High Financial Impact on Residential Customers.*

Although not a test of reasonableness or required by Alabama law, the EPA has addressed the issue of financial impact standards in a narrow context. With regard to sewer rates, the EPA developed guidelines to assess financial capability for consideration in Combined Sewer Overflow ("CSO")¹⁹⁶ consent decrees designed to settle litigation brought against wastewater providers for violations of the CWA (the "Financial Capability Guidelines").¹⁹⁷ The Financial Capability Guidelines were designed in part to "allow a phased approach to implementation of CSO controls considering a county's financial capability."¹⁹⁸ The Financial Capability Guidelines assign a value (the "Residential Indicator") to the ratio of the expected average sewer bill to median household income; a Residential Indicator that is greater than two percent of median household income ("MHP") is considered to have "high" financial impact on a residential ratepayer.¹⁹⁹

The Financial Capability Guidelines were designed to serve as a *forward-looking* tool used to estimate and evaluate the financial resources a wastewater provider is expected to have available in order to implement CSO controls and to assist in the development of CSO control implementation schedules. For example, a high residential indicator might be used by a wastewater operator in violation of the CWA to persuade the EPA to allow for more time to completely fix the overflow problem. However, even if a planned program results in a high burden under the Financial Capability Guidelines, the utility can still be required to implement the program based on the totality of the circumstances. Financial Capability Guidelines were not designed to assess the financial impact of costs a wastewater provider has *already* incurred.

Even so, the Receiver's planned interim rate increase will not have a "high" financial impact on residential ratepayers according to the Financial Capability Guidelines. The Receiver

¹⁹⁶ A CSO is a sewer overflow that occurs in a combined system that collects both storm water and wastewater.

¹⁹⁷ EPA, *Combined Sewer Overflows - Guidance for Financial Capability Assessment and Schedule Development*, February 1997, EPA-832-B-97-004, available at <http://www.epa.gov/nodes/pubs/csosf.pdf> (last visited June 6, 2011).

¹⁹⁸ *Id.*

¹⁹⁹ Similarly, a Residential Indicator of 1.0% to 2.0% is considered to have a "mid-range" financial impact under the Financial Capability Guidelines, and a Residential Indicator less than 1.0% is considered to have a low impact.

retained Industrial Economics, Incorporated ("IEI") to evaluate the potential economic impact of the interim rate increase described herein under the Financial Capability Guidelines. IEI is a private consulting firm that provides economic and regulatory analysis. The Receiver retained IEI because EPA has frequently used IEI to provide financial impact analysis in consent decree proceedings. IEI's report "Financial Impact of Proposed Rate Increase on Residential Customers of Jefferson County Environmental Services Department," is included in the Appendix at A-21.

IEI performed a detailed demographic analysis of the System's service area, analyzing the number of households served, a breakdown of households by structure type, and median household income within the System service area, weighted by the households in each jurisdiction served.

After finding that the estimated median household income in the System service area is \$46,593, IEI concluded that the current Residential Indicator in the System service area is "low," based off of an estimated average annual sewer cost per household of \$426.²⁶⁶ To determine the impact of the Receiver's planned interim rate increase, IEI performed three separate analyses: (1) short run; and (2) long run; and (3) cost of service allocation.

The short run analysis is based on the fact that in the coming five years, ESD projects that its capital program will be funded through reserve funds currently on hand, and not through operating funds or additional borrowing. The long run analysis assumes that once those reserve funds are depleted, ESD will fund its capital program through ongoing revenues, which will leave less money to cover debt service costs.²⁶⁷ The results of the short run and long run analyses were identical: under either scenario, the Residential Indicator will be 1.1%, in the low end of the "mid" impact range, based on an estimated average annual sewer cost per household of \$534.²⁶⁸ The impact is identical under either scenario because, although the amount of funds available to pay debt service costs is different depending on whether the capital program is funded through reserves or operating revenues, the total funds available to cover non-debt costs of operating and maintaining the system are the same. Both the short run and long run analyses calculate the financial impact of the rate increase based on the current 55% of total System costs that are allocated to and paid by the residential customers.

The third analysis IEI performed gauged the impact of the rate increase assuming a cost of service allocation was in place. Cost of service occurs when each rate class is allocated the full percentage of costs that the System incurs to serve that particular rate class. If the residential class within the System were allocated its cost of service, the allocation would increase from the current 55% to 66%. The results of this hypothetical cost of service analysis would eventually increase the average annual sewer cost per household to \$641, which results in a Residential Indicator of 1.37%, which still is in the "mid" range according to the Financial Capability Guidelines.²⁶⁹

²⁶⁶ IEI Report at Exh. 7.

²⁶⁷ As discussed in Section III.B *supra*, the Indenture prohibits the use of System revenues for capital expenditures unless all debt costs are paid in full.

²⁶⁸ IEI Report at Exh. 8.

²⁶⁹ IEI Report at Exh. 9.

IEI also noted that, even with the interim rate increase, the System still has an average wastewater bill that is significantly less than the average bill in Atlanta and that several communities, like Jefferson County, are likely to face double-digit rate increases as they update their infrastructure and comply with Consent Decrees. The results of the IEI analysis -- that the Receiver's planned interim rate increase falls within the "mid" impact range under the EPA Financial Capability Guidelines under current allocations, and would remain in the "mid" impact range assuming a cost of service allocation, provide additional support that the Receiver's planned 25% revenue increase is an appropriate first step in bringing System revenues to sufficient levels.

E. Based on the Citi Models, the 25% Revenue Increase is Compatible With a Variety of Possible Solutions.

The models Citi prepared at the Receiver's request for negotiation purposes provide an additional indicator that the Receiver's 25% revenue increase is appropriate.²⁰⁴

Citi took the O&M and capital improvement plans and the projected System revenues provided by the Receiver and calculated the total revenue increases that would be required to meet debt levels ranging from approximately \$1.4 billion to the full outstanding balance of approximately \$3.158 billion, assuming those amounts were refinanced at estimated future market conditions. This range was intended to represent the range of possible debt levels that the independent public corporation would need to refinance following negotiated concessions by the various creditors groups.

The results of the Citi models indicate that for any negotiated solution with a debt level between approximately \$1.4 billion and approximately \$2.5 billion (Scenarios 2 through 8), the required first year revenue increase would be within the range of a 20% to 28% total increase in revenues.

²⁰⁴ The Citi models are discussed in more detail in Section III.C *supra*.

Table 7 - CRI Scenario Results

Scenario	Revenue Increase			Par Value of New Debt	Available Net Proceeds	Funding Gap
	2012	2013	2014			
1	3.0%	3.0%	3.0%	1,578,420	1,470,160	108,260
2	3.0%	3.0%	3.0%	1,578,420	1,470,160	108,260
3	3.0%	3.0%	3.0%	1,578,420	1,470,160	108,260
4	3.0%	3.0%	3.0%	1,578,420	1,470,160	108,260
5	3.0%	3.0%	3.0%	1,578,420	1,470,160	108,260
6	3.0%	3.0%	3.0%	1,578,420	1,470,160	108,260
7	3.0%	3.0%	3.0%	1,578,420	1,470,160	108,260
8	3.0%	3.0%	3.0%	1,578,420	1,470,160	108,260
9	37.2%	37.3%	32.3%	3,001,714	2,960,240	41,474
10	36.0%	36.1%	36.3%	3,201,036	2,884,126	316,910
11	42.1%	42.1%	42.1%	3,499,031	3,158,326	340,705

This demonstrates that the Receiver's planned 25% revenue increase is compatible with a wide range of potential negotiated debt levels, and provides additional support that the planned interim increase is appropriate.

VI. Description of the New Rates: The B&V Sewer Cost Allocation and Rate Study

The 25% revenue increase will be implemented through a new rate design. The Receiver retained B&V to perform a sewer cost allocation and rate study (the "B&V Cost Allocation

²⁰ All scenarios assume 3.0% rate increases annually from 2015 onwards for the full term of any newly issued bonds.

²¹ All dollar figures in 1,000s. The Par Value of New Debt represents the amount of new debt that will yield the Available Net Proceeds.

²² The difference between the Par Value of New Debt and the Available Net Proceeds represent total issuance costs for each scenario.

²³ Redemption Cost is the total amount of debt currently outstanding.

²⁴ The Funding Gap is the difference between the amount of debt currently outstanding and the Available Net Proceeds resulting from the refinancing under each scenario. The Funding Gap represents the total amount of creditor concessions for each scenario, assuming that the County pays the issuance costs.

Study"). A copy of the report summarizing the results of the B&V Cost Allocation Study is included in the Appendix at A-22.

The B&V Cost Allocation Study first compares the System's total cost of providing service with the projected revenue generated under existing rates, and confirms the analysis previously discussed demonstrating that, due to declining customer accounts and usage, the total System revenues will decline over the next four years by approximately 6.45%, from approximately \$155 million in 2011 to approximately \$145 million by 2016, while the System's total revenue requirement is projected to increase from approximately \$211 million in 2012 to approximately \$406 million by 2016.²¹⁰ In order to meet the current System revenue requirements, at the current outstanding debt level of approximately \$3.158 billion, assuming the debt could be refinanced, revenues would need to be increased by approximately 50% in 2012, 43% in 2013, and 43% in 2014 in the first three years alone. This confirms the overwhelming evidence that current System revenues are insufficient to meet the System's obligations.

The B&V Cost Allocation Study also performed a cost of service analysis and recommended a new rate design to implement the Receiver's planned 25% interim revenue increase. The B&V Cost Allocation Study confirmed that the System's rates need a design that better captures the costs of servicing the different classes of System customers and provides the System with a more predictable revenue stream. The design changes described below are a significant step in the right direction.

A. Existing Rate Structure.

The System currently charges customers a small fixed monthly fee or a varying charge calculated from the customer's monthly volumetric water usage. The fixed charge is a minimum charge only applied to customers with no billable volume or such a low volume that their bill would be less than the minimum charge. Billed sewer volume for residential customers is calculated using 85% of their metered water usage; non-residential customers are billed using 100% of their metered water usage. The current rates charged by the System are listed below:

Table 3 - Existing Monthly Minimum Charges

Water Meter Size	Minimum Charge
5/8"	\$2.00
3/4"	\$2.50
1"	\$5.00
1.5"	\$9.00
2"	\$14.00
3"	\$28.00
4"	\$45.00
6"	\$85.00
8"	\$200.00
10"	\$250.00

²¹⁰ B&V Cost Allocation Study at Table 2-4 and 4-1.

Table 9 - Existing Volumetric Charges (\$/Ccf)

Residential	\$7.40
Non-residential	\$7.40

Table 10 - Existing Miscellaneous Charges (\$/1,000 gal.)

Grease Charges	\$30.00
Septage Charges	\$30.00

Table 11 - Existing Extra Strength Charges

Component	Tier 1		Tier 2	
	\$/lb	mg/l	\$/lb	mg/l
Total Suspended Solids	\$0.1950	300-1000	\$0.2925	1001+
Biochemical Oxygen Demand	\$0.1500	300-1200	\$0.3000	1201+
Chemical Oxygen Demand	\$0.1950	750-3000	\$0.2925	3001+
Fats, Oils & Grease	\$0.1000			
Total Phosphorus	\$2.000			

The System needs a more reliable monthly revenue stream to mitigate the unpredictable variances resulting from changes in water usage patterns. The easiest way to do this is to institute a fixed monthly service charge that System customers pay each month. This is consistent with the practices similar utilities employ (as an example, BWWB charges its customers with the standard 5/8 inch meter a \$15.21 monthly fee).

The System's annual revenue requirements are its costs of service. The total cost of service is broken down into functional cost components, then allocated to cost categories, and then distributed amongst the various customer classes.

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If the System's rate structure were immediately converted to a cost of service system, the following rate increases and adjustments would result:²¹¹

Table 12 - Immediate Conversion to Cost of Service

Customer Class	Indicated Revenue Increase Required	Indicated Revenue Adjustment
Residential	\$47,512,000	79.11%
Non-Residential	(\$13,087,000)	-14.43%
Grease	\$188,000	136.23%
Septage	\$678,000	170.35%
Surcharge	2,895,000	197.21%
Total	\$38,186,000	25.00%

Cost of service allocations to customer classes should not be construed as literal or exact requirements in rate design, but instead as a guide to utilize in making rate adjustment decisions. Industry practice and practical considerations sometimes modify rate adjustments by taking into account additional factors such as the extent of change from previous rate levels and past or present policies, practices and considerations.

B. New Rate Structure.

In this case, it is not practical to immediately transition to a cost of service rate structure due to the likelihood that an immediate transition would cause significant rate shock. The rates below promote the goal of rate stabilization.

Monthly Service Charge. The Receiver intends to implement a new monthly service charge that will be paid by all System Customers, regardless of the amount of their monthly water usage. This charge will be assessed as follows²¹²:

Table 13 - New Monthly Service Charge

Water Meter Size	Monthly Service Charge (\$/month)
5/8"	\$15.00
3/4"	\$22.00
1"	\$31.00
1.5"	\$57.00
2"	\$85.00
3"	\$215.00
4"	\$349.00
6"	\$680.00
8"	\$1,013.00
10"	\$1,350.00

²¹¹ B&V Cost Allocation Study Table 5-6.

²¹² B&V Cost Allocation Study Table 6-1.

Volumetric Charges: The Receiver intends to adjust the System's volumetric rates as follows:

Table 14: New Volumetric Charges

Class	Rate
Residential	\$6.25/Ccf
Non-Residential	\$8.40/Ccf
Grease	\$79.00/1000 gal
Septage	\$79.00/1000 gal

Surcharge Rates: The Receiver intends to adjust the System's current surcharges as follows:

Table 15: New Surcharge Rates

Component	\$/lb
Total Suspended Solids	0.2734
Biochemical Oxygen Demand	0.8284
Chemical Oxygen Demand	0.4142
Fats, Oils & Grease	0.1715
Phosphorus	3.2650

Recovery of Cost of Service under New Rates: The adjusted rates are intended to increase total System revenues by 25%. With the changes to the rate structure, this revenue increase is projected to be allocated as follows:

Table 16: Cost of Service Allocation Under New Rates

Customer Class	Total Cost of Service	Revenue Under Existing Rates	% of Revenue (Existing Rates)	Revenue Under Proposed Rates	Cost of Service Recovered Under Proposed Rates	Increase Over Existing Rates
Residential	\$107,568,000	\$60,056,000	39.32%	\$75,292,000	69.99%	25.77%
Non-Residential	\$77,604,000	\$90,691,000	59.37%	\$110,385,000	142.24%	21.72%
Grease	\$326,000	\$138,000	09%	\$364,000	111.66%	163.77%
Septage	\$1,076,000	\$398,000	26%	\$1,048,000	97.40%	163.32%
Surcharge	\$4,363,000	\$1,468,000	9%	\$4,364,000	100.02%	197.28%
Total	\$191,934,000	\$152,751,000	100	\$191,453,000	100.27%	25.34%

^{3D} R&V Cost Allocation Study at 20.

^{3E} R&V Allocation Study at 21, Table 6.7.

C. Implementation of Interim Rate Increase.

The Receiver intends, subject to public comment, to implement the rate increases and rate design changes described herein as soon as possible. The Receiver will hold a public hearing on these matters on June 29, 2011, at 2:30 p.m. at the Jefferson County, Alabama, Courthouse. At that hearing, copies of this report will also be available, in addition to being available on the internet at www.jeffcowastewaterfacts.com. Subject to comments received from the public at the public hearing, the Receiver will take the steps necessary to implement the rates described herein.

VII. Implementation of a Low-Income Assistance Program.

The Receiver is beginning the process of implementing a program designed to assist customers with low annual incomes who will be especially challenged by the rate increases that will be implemented in the coming years. If fully implemented, this program should eliminate the impact of the interim rate increase on those System ratepayers with the lowest incomes.

Many, if not most, utility providers have similar programs designed to assist customers. Such programs serve to stabilize utility revenues by decreasing expenses from delinquent and uncollectible accounts and by allowing for rate increases necessary to meet the utility's revenue requirement.

The Receiver engaged Dollar Energy to create and assist with implementation of a low-income program. Dollar Energy is a non-profit organization that, among other activities, assists utilities in the design and administration of a variety of low-income programs, utility consumer education, and customized software technology. A copy of Dollar Energy's report describing the planned low income program is included in the Appendix at A-23.

A. Program Eligibility.

Program eligibility criteria will be based on the Federal Poverty Income Guidelines ("FPIG"). The FPIG take into account the numbers of household members in relation to the total monthly or annual income.²¹⁵

The guideline proposed by Dollar Energy matches that used by the federally funded Low Income Heating and Energy Assistance Program ("LIHEAP"). Program Guidelines for LIHEAP are typically between 150% to 200% of the FPIG. The initial maximum income level for the Receiver's planned program will restrict eligibility to households with annualized incomes of 150% of the poverty level or less.

Once the plan becomes operational, customers will be able to apply by calling a toll free number dedicated to the customers in Jefferson County and administered by Dollar Energy. The telephone application process typically lasts approximately 10 minutes, and upon receipt of required program documentation, the enrollment can be completed in less than 24 hours. Once enrolled, a customer can begin receiving the credit on their next billing statement.

²¹⁵ The FPIG are available online at <http://aspe.hhs.gov/poverty>.

B. Program Overview.

As currently planned, the low income program will have four principal components: (1) bill assistance; (2) arrearage maintenance; (3) consumer education; and (4) public outreach. System customers eligible for the program will be able to participate in a bill payment assistance program to lower the household's monthly bills for sewer service. The goal of the bill payment assistance component is to help households offset the increasing costs of utility service by providing a credit for limited income customers. The billing assistance will be provided through a credit each billing cycle toward the customer's sewer account balance. The size of the credit will be based on several factors, including household size, household income, and amount of usage. The arrearage management component will help eligible customers maintain their sewer service by freezing past due balances and eliminating future finance charges in exchange for regular monthly payments under a three-year installment payment plan.

Upon enrollment, customers will also receive information regarding simple and affordable ways to save on their household water use. Because sewer bills in Jefferson County are principally volumetric, reduced water usage is the only way to directly reduce sewer bills. The customer education information will be mailed in the enrollment packet sent to the customer upon enrollment into the program.

A community outreach campaign will also be launched to provide information about the low income program through grassroots efforts by utilizing various channels that exist in the community. These channels will likely include enlisting the help of existing community based organizations in Jefferson County, working on opportunities for low or no-cost earned media, sewer bill inserts, and other low cost methods of communication. Efforts will also be made to leverage the program communications with those of the water, natural gas, and electric utility companies serving the County households.

C. Program Funding and Interim Implementation.

Most utilities in Alabama support their low-income assistance programs through donations from customers, usually through allowing customers to check a box on their bill authorizing a donation. Further, most of these programs are targeted only towards senior citizens with low-income levels. Many of the customers eligible for the utilities' low-income programs are also eligible to receive assistance from the federal LIHEAP program administered by the Department of Health and Human Services. Because ESD is not an energy provider, LIHEAP is not available to assist ratepayers in offsetting their bills from the System.

The Receiver's planned low-income program described above is aimed at a much broader class of ratepayers and is not intended to be age-restricted. In other words, the goal of this program is intended to reach all ratepayers with incomes below 150% of the poverty level who might need assistance in paying their wastewater bills. As a result of this broader eligibility, the Receiver's low-income program plan has different, and financially more significant, funding needs than similar programs at other utilities.

The Receiver faces significant obstacles in funding a program of this size and scope. The estimated annual funding needs for this program are in the range of \$2 million per year. It is

unrealistic to believe the System's customers (currently, approximately 144,000 customers) will make donations to the program sufficient to fully fund it.

Further, even though the program is intended to alleviate delinquent and uncollectable accounts, according to Alabama law, the program may not be funded by a diversion of system revenues as this would create a discriminatory rate system. "A discount rate to elderly, low-income, or fixed income patrons may violate constitutional or statutory prohibitions against discrimination in utility rates." 12 MCQUILLIN'S LAW OF MUNICIPAL CORPORATIONS § 34:195. Additionally, in an opinion upheld on appeal by the Alabama Supreme Court, the Alabama Public Service Commission has specifically found that low-income assistance programs funded by ratepayers are unjustly discriminatory, and that providing assistance to low-income households in meeting utility bills is the job of the state and local government, not utilities. *Greater Birmingham Unemployed Comm. v. Ala. Gas. Corp., et al.*, 86 P.U.R.4th 218 (Ala. PSC 1987), *aff'd on procedural grounds, Greater Birmingham Ministries v. Ala. Pub. Serv. Comm'n*, 539 So. 2d 187 (Ala. 1988).

The practical long term solution to funding the low-income plan, like almost all solutions in this matter, lies in a negotiated solution. If the debt were refinanced, it is possible that a low-income program could be fully funded with a long term or annuitized fund created with creditor contributions during that refinancing transaction. However, that prospect does not seem likely in the short term.

In the meantime, the Receiver will begin collecting donations from any and all available sources as soon as possible to begin the foundation of the low-income program. However, the best, and most logical, source of funding for the low-income program is monies the County has already received and that were specifically designated to assist in this regard. These monies would allow the low-income program to begin immediately assisting the System's low-income customers in significant and meaningful ways.

As part of its November 4, 2009 settlement with the SEC, JPMorgan paid \$50 million "to and for the benefit of [the County] for the purpose of assisting displaced County employees, residents, and sewer ratepayers."²¹⁶ In communications with the SEC, the County recognized that there was a "possibility" of an "increased burden on the sewer rate payers alone" and that "the County's sewer users include a disproportionate number of low income citizens who are ill-equipped to take on that burden." A copy of the County's letter to the SEC is included in the Appendix at A-24. JPMorgan made this payment to the County on November 9, 2009.

It is unclear what use the County made of the \$50 million it received from JPMorgan, but to date these monies have not been spent to assist displaced ratepayers.

It is entirely appropriate to utilize the JPMorgan proceeds to fund the low income program for a number of reasons. First, to the extent JPMorgan's actions harmed the County, that harm most directly manifested itself in costs that were directly attributable to and borne by

²¹⁶ Order Instituting Administrative Cease-and-Desist Proceedings, pursuant to § 8A of the Securities Act of 1933 and §§ 15(b) and 21C of the Securities Exchange Act of 1934, Making Findings, and Imposing Remedial Sanctions and a Cease-and-Desist Order, *In the Matter of J.P. Morgan Securities Inc.*, SEC Administrative Proceeding File No. 3-13673 (Nov. 4, 2009) (emphasis added).

the System's ratepayers. Second, the citizens of the County who were most tangibly affected by this harm were the System's ratepayers who, as the County pointed out to the SEC, will have to pay higher sewer rates – now and in the future – as a result. Third, those citizens most directly impacted by the subject of the SEC settlement with JPMorgan are, as again pointed out by the County, those low-income ratepayers least equipped to take on the “burden” of higher rates that are necessary.

Shortly after being appointed, the Receiver reserved its right to make a claim on the \$50 million received by the County. A copy of the Receiver's letter is included in the Appendix at A-25. To the extent the County is unwilling to disburse this \$50 million to the Receiver for the purpose of assisting displaced ratepayers through the low-income plan, the Receiver reserves its right to seek additional relief from the Court in the Receivership Action or commence other litigation to compel the County to turn over the money to the Receiver. The County must assist the ratepayers in dealing with the “burden” it helped create. If the Receiver is unable to secure funding for the low income program through the \$50 million, it is likely that the program will not be implemented as planned at this time.

In addition, the County received an additional \$25 million pursuant to a Fair Fund distribution from the federal government in 2011. This \$25 million was paid to the government by JPMorgan as a result of the same SEC action. The Receiver reserves the right to also seek access to that \$25 million payment or some portion thereof.

VIII. Non-Rate Recommendations and Options for a Permanent Solution.

A. Explore Additional Revenue Sources Other Than Rates.

In addition to sewer user rates, there are other potential revenue sources or enhancements available to the County that would allow for greater balance in System finances. Revenue streams that are not directly tied to water usage also provide enhanced stability for System funding because they fluctuate less. If the County and/or the legislature were to implement some of these measures it would reduce the pressure to adequately fund the System solely through sewer user rates, and more equitably spread the costs of the System among all of the residents throughout Jefferson County that benefit from the public health service the System provides.

One source of additional revenue is an increase in the existing sewer ad valorem tax. As discussed in Section IV.B.2 *supra*, aside from an adjustment in 1978 to account for a change in property classification, the rate for the annual sewer ad valorem tax has not been increased since its establishment in 1901. As of 2003, the total tax burden within Jefferson County was well below the average for similar municipalities. Increasing the ad valorem tax would result in lower future sewer rate increases and would also more equitably spread the burden of paying for the System among all Jefferson County residents as the legislature originally intended, and the Alabama Supreme Court found in *Keene v. Jefferson County*, 33 So. 43 (Ala. 1903), is fair and justified.

An additional source of revenue is imposition of a clean water fee for all County residents or for residents not currently connected to the System.²¹⁷ While controversial, a clean

²¹⁷ Special Masters Report at 34.

water fee remains a viable and appropriate option to consider as a revenue stream. As the legislature and the courts have recognized, everyone in the County receives the public health benefits from the System's treatment of wastewater and protection of area water supplies. It is therefore not unreasonable to require everyone to contribute to ensure the System's continued viability.

A viable wastewater system ultimately serves to reduce the cost of water treatment by water providers. For instance, the progression of water treatment may be envisioned as a three rung ladder. The local water providers first take water from rivers and lakes. This is the middle stage of water quality ("Level B"). The water providers then clean the water up to a level that it is safe to drink ("Level A"). During the course of use, the water collects waste and drops to a level of very poor quality ("Level C") much lower than where it began naturally in rivers and lakes. Before the System can discharge the poor Level C wastewater back into our waterways, it must treat the water and bring it back up to a level of quality slightly above Level B.

Treating water costs money. If the quality of water discharged into waterways by the System were lowered (less than Level B), the water providers would have a longer way to go, and would have to spend more money, in order to clean the water back up to a level safe for drinking (Level A). This cost would be passed on to everyone who uses the water works systems. Besides running afoul of numerous clean water requirements, this would spoil our waterways such that no one could swim or fish in them, as happened in this County in the mid-1950s and led to the lawsuits which resulted in the Consent Decree.²¹⁸ Moreover, a deterioration of water treatment in this County would likely lead to an overall decline in the overall condition of water in the County and diminish the quality of life, property values, and prospects for economic development for all of the County's residents.

An obviously better approach is to make sure the water is treated to an acceptable level before it is discharged into the waterways, as the System does now. This shifts some of the cost of treatment from the water provider to the System, but the beneficiaries remain the same -- all citizens of the County. This benefit, among others, makes it reasonable for all citizens of the County to participate at some level in funding the System.

A clean water fee is legal because Alabama governments have the authority under their police powers to generate sufficient revenues from their residents in order to operate sewer systems.²¹⁹ The Alabama Supreme Court recognizes that the "beneficial effects" of this very System "extend to the entire county" and that "[t]he health of the valleys drained is of great importance to every citizen of the county."²²⁰ Therefore, fees levied on beneficiaries of the System are legal and help to spread the cost of the System over a wider tax base, thus reducing the average individual burden.

The System was created to protect the quality of "any and all streams and water courses" within Jefferson County, and it is this purpose that the System still serves today.²²¹ In 1953, the

²¹⁸ See, *supra*, Section II.B.3.

²¹⁹ See, e.g., *Bd. of Water & Sewer Comm'rs of the City of Mobile v. Yarbrough*, 662 So. 2d 251, 254 (Ala. 1995).

²²⁰ *Keene*, 33 So. at 438.

²²¹ Act 714, passed in 1901, gave the new Sanitary Commission (now the County Commission) the "duty to protect from pollution any and all streams and water courses from which any municipality or community draws or uses in

County Board of Health issued a warning to all County residents not to fish or swim in any open stream in Jefferson County because "all watersheds in this area carry pollution from sewage."²²² Clearly, if all residents were being harmed by the pollution, all residents of Jefferson County benefit from the clean water the System protects, and all county residents, not just System customers, should contribute to the costs of providing this important public service.

B. Ensure that the System Has the Clear Authority to Enforce Mandatory Hookup to the System.

The System must have the authority to enforce mandatory hookups for new development, and for existing homes and businesses that can be served by the current System. This authority is commonplace for sewer systems across the country. See, e.g., 56 AM. JUR. 2D *Municipal Corporations* § 504 ("A municipality may require that owners of premises served by a public drain or sewer connect to it, in the valid exercise of its police power."); 64 C.J.S. *Municipal Corporations* § 1537 ("In the interest of the public health and welfare, a municipality may require property owners to connect with a sewer at their own expense"). Mandatory sewer connection requirements have also been routinely upheld as valid by the courts. See, e.g., *Keys Citizens for Responsible Gov't, Inc. v. Fla. Keys Aqueduct Auth.*, 795 So. 2d 940 (Fla. 2001); *Wolfe v. City of D'Iberville*, 799 So. 2d 142 (Miss. Ct. App. 2001); *Caddo Parish Sewerage Dist. No. 7 v. Reeves*, 649 So. 2d 1236 (La. Ct. App. 1995); *Loggins v. Lightner*, 897 S.W.2d 698 (Tenn. Ct. App. 1994); *Lepre v. D'Iberville Water & Sewer Dist.*, 376 So. 2d 191 (Miss. 1979). The United States Supreme Court has stated, in a case arising out of Georgia, that:

It is the commonest exercise of the police power of a state or city to provide for a system of sewers, and to compel property owners to connect therewith. And this duty may be enforced by criminal penalties.

Hutchinson v. City of Valdosta, 227 U.S. 303, 307 (1913).

Numerous municipalities in Alabama have passed ordinances requiring mandatory connection to sewer systems. See, e.g., Prattville, § 66-80; Mobile, § 701.2; Guntersville, § 12-33; Ozark, § 10-72; Madison, § 13-60; Opelika, § 28-81(d); Wetumpka, § 82-73.

Alabama courts have also long recognized that the authority to enforce mandatory hookup requirements is vital to the establishment of an efficient sewer system:

[S]urely no sewerage system could be regarded as efficient without the incident of power in the municipal corporation to compel connections of property by its owners with the system.

Allman v. City of Mobile, 50 So. 238, 241 (Ala. 1909); see also *City of Leeds v. Avram*, 14 So. 2d 728, 729 (Ala. 1943) (recognizing that the burden of requiring a property owner to connect to the sewer system "offends no constitutional right"); *Town of Leeds v. Cason*, 116 So. 519, 519 (Ala. 1928).

whole or in part its supply of water." See discussion in Section II.B.1 *supra*.

²²² See discussion in Section II.B.3 and PARCA Report at 43.

The County's lack of clear legal authority to enforce mandatory connection to its sewer system has been repeatedly recognized throughout the System's history as a near insurmountable barrier to the establishment of an efficient county-wide sanitary sewer system in Jefferson County.²²³ The problem has been identified, and the solution is obvious. Requiring mandatory hookups to the sewer System where available, will increase the number of ratepayers, and thus spread the costs of the sewer system more equitably among those who benefit from it.

Until hookup becomes mandatory, a reserve capacity charge could be implemented for County residents who are not currently connected to the System but could be.²²⁴

C. An Independent Public Corporation Should Be Created to Take Over Operation and Maintenance of the Jefferson County Sewer System.

As discussed previously in Section III.C, the Receiver has worked to facilitate and support the necessary legislation to create an Independent Public Corporation ("IPC") that would ultimately hold the System's assets, operate the System, and be obligated to pay the refinanced debt. The County has developed draft legislation for the IPC but it has not been presented to the legislature. This legislation is critical to the System's long term success and financial viability.

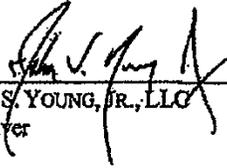
The IPC would have an independent professional board and strict governance documents to ensure the proper operation and funding of the System. The establishment of an independent professional board insulates the System from the influence of state and local political gamesmanship that throughout the System's history has prevented the establishment of a viable, professionally run, adequately funded System with the assets and resources necessary to serve the public. The governance documents will implement strict regulatory and operational controls that will prevent the manipulation, risk-taking, and corruption that occurred following the 1996 Consent Decree from ever happening again. The establishment of an IPC, with the requisite governing and regulatory controls, is the only hope the System has of being able to go to the market and attract future investors.

IX. Conclusion.

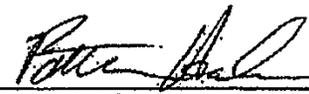
This concludes the Receiver's First Interim Report on Finances, Operations, and Rates of the Jefferson County Sewer System. The Receiver intends to submit its next interim report within the next six to twelve months. As noted earlier, the Receiver encourages the County, its various creditors groups, and all stakeholders to continue pursuing the negotiated solution that is critical to the long term financial health and viability of the System and the County, and the Receiver remains available to assist the parties in these negotiations in any manner they deem helpful. In the meantime, however, the Receiver will continue to move forward with the operations and capital plans to achieve efficiencies and best practices to preserve the reliability and compliance of the System. The Receiver will also continue to implement multiple future rate increases every six to twelve months until System revenues reach a level sufficient to support the System's operations and meet its obligations.

²²³ See Section II.B *supra*.

²²⁴ Special Masters Report at 29-30.



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Receiver



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Certificate of Service

I hereby certify that on June 14, 2011, a copy of the foregoing was served via U.S. Mail, postage prepaid to the following counsel of record:

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Of Counsel



I, Anne-Marie Adams, Clerk of the Circuit Court, of Jefferson County, do hereby certify that the foregoing is a true, correct and full copy of the instrument herewith set out as appears of record in said Court.

WITNESS my hand and the seal of said Court,

this AUG. 03. 2011 87 pages
the day of 20

Anne-Marie Adams
CLERK

BE IT RESOLVED AND ORDERED by the JEFFERSON COUNTY COMMISSION (hereinafter, the "Commission"), as follows:

Section 1.

The Commission hereby finds and determines as follows:

(a) Jefferson County (the "County") is subject to a Consent Decree in the consolidated cases *United States of America v. Jefferson County, Alabama, et al.*, Civil Action No. 94-G-2947-S and *Kipp, et al. v. Jefferson County, Alabama, et al.*, Civil Action No. 93-G-2492-S. The Consent Decree required the County to improve the Jefferson County sanitary sewer system (the "System"). To pay for these projects, the County issued several series of sewer warrants. The sewer warrants are governed by a Trust Indenture dated as of February 1, 1997 and subsequently supplemented and amended (as amended and supplemented, the "Indenture").

(b) The Indenture provides that the Commission will adjust rates charged for sewer services (the "System rates") to provide for sufficient Net Revenues Available for Debt Service (as defined in the Indenture). Alabama law limits the Commission's ability and duty to raise rates above a reasonable level. The Indenture recognizes these legal limitations.

(c) On February 12, 1997, the Commission adopted a resolution that amended its sewer rate ordinance (the "Rate Adjustment Resolution") to provide a procedure for annual adjustments to System rates. Currently, the amount of such adjustments is determined by three formulas set forth in the Rate Adjustment Resolution.

(d) The Rate Adjustment Resolution does not limit or restrict the power or authority of the Commission to depart from the Rate Adjustment Resolution. The Commission can set rates directly without relying on the Rate Adjustment Resolution and has done so on several prior occasions.

(e) Due to escalating debt service requirements, System rates have increased by approximately 329% since 1997.

(f) In the first quarter of 2008, rating agencies downgraded the credit ratings of certain bond insurers that insure the County's sewer warrants. The downgrade of the bond insurers caused a dramatic rise in interest rates on the System's variable rate and auction rate warrants and an acceleration of principal on certain variable rate warrants. The County's annual debt service under the Indenture is now more than double the level of debt service projected at the beginning of 2008.

(g) Due to the dramatic increase in the System's debt service since the first quarter of 2008, if the Commission allowed the Rate Adjustment Resolution to apply it would result in an increase of System rates, effective January 1, 2009, of more than 300%.

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(h) The Commission has been advised by counsel that such a rate increase would not be reasonable under applicable law and would violate the Indenture, which provides that rate increases must be consistent with applicable law.

(i) On September 16, 2008, the trustee under the Indenture, at the direction of and joined by certain of the bond insurers, sued the County in a lawsuit styled *The Bank of New York Mellon, et al v. Jefferson County, Alabama, et al.*, Civil Action No. 2:09-CV-01702-RDP (the "Indenture Action") before the United States District Court, Northern District of Alabama (the "Court"). The plaintiffs in the Indenture Action allege defaults and seek remedies under the Indenture. The County is defending the claims and has filed counter-claims against the bond insurer plaintiffs and reserves all rights, claims and defenses.

(j) By orders dated November 19, 2008 and November 25, 2008, the Court appointed two Special Masters to investigate, mediate and report to the Court on various issues, including System rates. The Special Masters' report on System rates is due January 19, 2008. In addition, the Commission will confer with a rate consultant to offer advice and recommendations on System rates.

(k) To ensure System rates are reasonable and lawful and consistent with the terms of the Indenture, the Commission has concluded that it must suspend the Rate Adjustment Resolution and take action on System rates after consulting with and considering the recommendations of its rate consultants and the Special Masters.

(l) Suspending the Rate Adjustment Resolution will allow the Commission to act directly on System rates after consulting with and considering the recommendations of the Special Masters and the County's consultants. This action is necessary for the Commission to balance and discharge its duties to creditors, rate payers and the environment under the Indenture, the Consent Decree and applicable law.

Section 2.

The Commission hereby suspends the operation of the Rate Adjustment Resolution pending consultation with and consideration of the recommendations of the Special Masters and the County's rate consultant. Without limitation of the foregoing, there shall be no adjustment of System rates pending further action of the Commission after such notice and hearing as required by applicable law.

Section 3.

In no event shall the provisions of this resolution limit or restrict the power or authority of the Commission to modify rates or charges for services provided by the System or to modify or rescind the Rate Adjustment Resolution.

Section 4.

This resolution and order shall take effect upon passage and adoption by the Commission.

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JEFFERSON COUNTY, ALABAMA SEWER SYSTEM

RECOMMENDED RATE INCREASES vs. ACTUAL RATE LEVELS

The following chart reflects the recommendations made between 2002 and 2011 by the various rate consultants engaged by Jefferson County (the "County") and its counsel, and by the Special Masters and the Receiver, compared to the County's actual rate levels during that same period.

DATE	EXPERT	RECOMMENDED RATE LEVEL(ccf)	ACTUAL RATE LEVEL(ccf)
November 2002	2002 Krebs Report	<p>2003: \$5.05 2004: \$6.26 2005: \$7.18 2006: \$7.83</p> <p><i>In 2002, the rate was \$3.53 (ccf). The increases recommended by Krebs would have resulted in a 122% increase by 2006.¹</i></p>	<p>2003: \$4.90 2004: \$5.39 2005: \$5.93 2006: \$6.35</p>
March 2003	2003 Krebs Report	<p><i>Estimated that the County would need to increase its sewer revenues by 89% over six years to avoid a shortfall in its required debt service coverage. In light of this projected shortfall under known conditions, Krebs made various recommendations to increase revenue.²</i></p> <p><i>"(w)hen the alternative of obtaining revenues through a plan over which the Commission has some control is compared with the action</i></p>	<p><i>Rather than adopt the Krebs</i></p>

¹ Paul B. Krebs & Associates, Inc., Report to the Commission of Jefferson County, November 5, 2002. *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318 Evidentiary Stipulation dated 1/7/10, Ex .C, Ex. 34, pp. 3, 8. (Circuit Court of Jefferson County, Alabama 2010).

² Paul B. Krebs & Associates, Inc., Analysis of Sources of Revenue for the Jefferson County Environmental services Department, March 31, 2003. *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318 Evidentiary Stipulation dated 1/7/10, Ex. C, Ex. 35, Consultant Letter, p. 1. (Circuit Court of Jefferson County, Alabama 2010).

		<i>of a receiver should the system go into default, there can be little question as to which course of action is preferable. There can also be no debate about the urgency for action; this is not a matter on which action can be long deferred without serious consequences”³</i>	<i>recommendations, the County did not implement any additional rate increases, and did not make any of the rate structure design changes recommended in the report.⁴</i>
2003	BE&K Report	<p>2004: \$5.51 2005: \$6.20 2006: \$6.98 2007: \$7.85 2008: \$8.83 2009: \$9.93 2010: \$11.17 2011: \$12.57</p> <p><i>Estimated that it would cost an additional \$611 million (over and above existing debt) to complete the improvement program and recommended the County increase rates 12.5% each year from 2004-2011.⁵</i></p>	<p>2004: \$5.39 2005: \$5.93 2006: \$6.35 2007: \$6.87 2008: \$7.40 2009: \$7.40 2010: \$7.40 2011: \$7.40</p> <p><i>Rates were not increased to the recommended levels.</i></p> <p><i>In December 2008, the Commission suspended further rate increases. There have been no rate increases since January 2008.⁶</i></p>
January 2007	Red Oak Final Technical Report	<p>2008: \$7.75 2009: \$8.10 2010: \$8.67</p> <p><i>Recommended that the County choose one of six different scenarios for annual rate increases from 2008 to 2010. The “most likely” scenario, listed above, called for an increase of 12.8% in 2008, 4.5%</i></p>	<p>2008: \$7.40 2009: \$7.40 (No increase) 2010: \$7.40 (No increase)</p> <p><i>County did not implement any of the</i></p>

³ Paul B. Krebs & Associates, Inc., Draft Report of Analysis of Sources of Revenue for the Jefferson County Environmental Services Department, March 13, 2003. *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318 Evidentiary Stipulation dated 1/7/10, Ex. C, Ex. 36. (Circuit Court of Jefferson County, Alabama 2010).

⁴ *Bank of New York Mellon, et al. v. Jefferson County Alabama, et al.* Case No. 2:08-CV-01703-RDP Memorandum Opinion (the “Memorandum Opinion”) at 16 (N.D. Ala. Jun 12, 2009).

⁵ BE&K Report. *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318 Evidentiary Stipulation dated 1/7/10, Ex.C, Ex. 37, Executive Summary, pp. 2-9; Report, pp. 12-5 to 12-6. (Circuit Court of Jefferson County, Alabama 2010).

⁶ December 2008 Automatic Rate Adjustment Suspension Resolution, *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318 Evidentiary Stipulation dated 1/7/10, Ex.C, Exhibit 54. (Circuit Court of Jefferson County, Alabama 2010).

		<i>in 2009, and 7.0% in 2010. The scenario calling for the lowest level of increase required an increase in 2008 of 8%, then 6.3% in 2009, and 5.5% in 2010. The scenario that called for the highest level of rate increases required increases of 50.4% in 2008, 16.4% in 2009, and 6.7% in 2010.⁷</i>	<i>recommended scenarios, raising rates only 7.7% in 2008, then suspending all rate increases in December of 2008.⁸ There have been no rate increases since January 2008.</i>
2008	Raftelis Draft Report (Study conducted between March and June of 2008)	2009: \$7.56 <i>Recommended the County at least increase sewer rates at the level equal to the Consumer Price Index (2.22%) to reflect a cost of living adjustment.⁹</i> <i>RFC also suggests that in the longer term, the County should accelerate its increases and consider rate increases "at least consistent with the industry average[.]" and "RFC believes it would be imprudent to not consider rate increases in the near term."¹⁰</i>	2009: \$7.40 (No increase) <i>Instead of following this advice, on December 16, 2008, the County suspended the automatic rate adjustment resolution it adopted in 1997, which effectively suspended all rate increases. In its repeal, the Commission stated that it would "act directly on System rates after consulting with and considering the recommendations of the Special Masters and the County's consultants"¹¹ Contrary to the resolution, there have been no rate increases since January 2008.</i>
January 20, 2009	Report of the Special Masters	2009: \$9.25 <i>Recommended customer rates to support debt service should not increase more than 25% in any one year.¹² Recommends that the County "develop implementation plans and enact various revenue enhancements that result in ESD (Environmental Services District)</i>	

⁷ Red Oak Final Technical Report to the Jefferson County Environmental Services Department. *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Case No. CV-2009-02318 Evidentiary Stipulation dated 1/7/10, Ex.C, Exhibit 39, pp. 2-8 through 2-9. (Circuit Court of Jefferson County, Alabama 2010).

⁸ Memorandum Opinion at 17-18

⁹ March 5, 2009 Letter from Peiffer Brand of Raftelis Financial Consultants, Inc. to Patrick Darby. Deposition of Peiffer Brandt Ex. 103 (May 17, 2010) *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318.

¹⁰ Draft Report of Raftelis Financial Consultants, *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318 Evidentiary Stipulation dated 1/7/10, Ex. C, Exhibit 40, pp. 2, 7. (Circuit Court of Jefferson County, Alabama 2010)

¹¹ December 2008 Automatic Rate Adjustment Resolution Suspension, *supra*.

¹² *Bank of New York Mellon et al v. Jefferson County Alabama*, Case No. 2:08-CV-01703-RDP, Dock. No. 48, Ex. A, Report of the Special Masters at 59 (N.D. Alabama, Feb. 10, 2009).

		<i>charges that more closely approximate the actual cost of services provided.</i> ¹³ <i>At the February 25, 2009 hearing in the Federal action, the court explicitly directed the County not to remain disengaged, but to make a genuine response to the Special Masters' recommendations in order for the court to understand what action, if any, the County intends to take.</i> ¹⁴	2009: \$7.40 (No increase) <i>At a June 1, 2009 evidentiary hearing in the Federal Action, the Commissioners testified that they would not consider raising sewer rates.</i> ¹⁵
March 5, 2009	Letter from Peiffer Brandt to Patrick Darby	2009: \$7.56 <i>Recommended increase in sewer rates consistent with a cost of living adjustment, using consumer price index (2.22%)</i> ¹⁶	2010: \$7.40 (No increase)
October 15, 2009	Jefferson County Discussion Notes prepared by Raftelis Financial Consultants	2010: \$8.80 <i>Stated that a 20% rate increase would be reasonable.</i> ¹⁷	2010: \$7.40 (No increase)
February 2010	Raftelis Report	2010: \$7.90 <i>Recommended the County implement an immediate 6.76% increase, increase the minimum charge from \$2 to \$13, and increase the impact fee, along with various other revenue changes.</i> ¹⁸	2010: \$7.40 (No increase)
May 2010	Peiffer Brandt	<i>Testified that the County could raise rates by 150% without going over the "affordability" threshold considered by EPA when it is</i>	2010: \$7.40 (No increase)

¹³ Report of the Special Masters, 4.

¹⁴ Memorandum Opinion, 19. *See also* Hearing Transcript 6-8, 42-43, 47-48 (Feb. 25, 2009), Case No. 2:08-CV-01703-RDP.

¹⁵ *See* Hearing Transcript 180-181 (June 1, 2009). *See also* Memorandum Opinion at 19.

¹⁶ May 17, 2010 Deposition of Peiffer Brandt, Ex. 103. *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318.

¹⁷ May 17, 2010 Deposition of Peiffer Brandt, Ex. 114. *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Civil Action No. CV-2009-02318.

¹⁸ Raftelis Financial Consultants Comprehensive Wastewater Cost of Service and Rate Study Report, dated Feb. 3, 2010. May 17, 2010 Deposition of Peiffer Brandt, Ex. 104, at pp. ES-2, 12, 16, 19. *Bank of New York Mellon et al v. Jefferson County, Alabama, et al.* Case No. CV-2009-02318.

		<i>considering future rates to fund expenditures required to comply with its rules and regulations.¹⁹</i>	
August 2010	Eric Rothstein	<i>Testified that "25% rate increases for some period of time... may fall within the range of reasonableness."²⁰</i>	2011: \$7.40 (No increase)
June 14, 2011	Receiver's First Interim Report	2012: \$9.25 <i>Recommends 25% increase in rates. "Rates must be increased now, and must continue to increase in the future." (emphasis original).²¹</i>	2011: \$7.40 (No increase) 2012: \$7.40 (No increase)
September 14, 2011	Proposed Terms and Conditions for Settlement and Refinancing	November 2011: \$8.01 2012: \$8.67 2013: \$9.38 <i>The term sheet contemplated approximate rate increases of 8.2% for each of the first three years beginning November 1, 2011. These proposed rate increases assumed the outstanding principal balance of the Warrants would be reduced voluntarily by certain of the Warrantholders by more than \$1 billion in the aggregate as part of a refinancing of the Warrants.²²</i>	2011: \$7.40 (No increase) 2012: \$7.40 (No increase)

¹⁹ May 17, 2010 Deposition of Peiffer Brandt at 135:12-136:4.

²⁰ Aug. 23, 2010 Deposition of Eric Rothstein at 229:12-23. *In re Jefferson County, Alabama*, Case No. 11-5736-TBB-9 (Bankr. N.D. Ala. 2011), Ex. M-78

²¹ Receiver's First Interim Report, 55.

²² Proposed Terms and Conditions for Settlement and Refinancing of Jefferson County's Outstanding Sewer Warrants, September 14, 2011. *In re Jefferson County, Alabama*, Ex. M-57, Case No. 11-5736-TBB-9 (Bankr. N.D. Ala. 2011).

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION

THE-BANK OF NEW YORK	}	
MELLON, et al.	}	
	}	
Plaintiffs,	}	
	}	
v.	}	Case No.: 2:08-CV-01703-RDP
	}	
JEFFERSON COUNTY, ALABAMA,	}	
et al.,	}	
	}	
Defendants.	}	

MEMORANDUM OPINION

This matter is before the court on Plaintiffs' Emergency Motion for Appointment of a Receiver ("Plaintiffs' Receivership Motion"). (Doc. #8). For the reasons explained below, the court finds that: (1) Plaintiffs have made a sufficient factual showing that they are entitled to the remedy of a receiver; but (2) the Johnson Act prohibits the appointment of a receiver with the power to directly or indirectly affect rates; and (3) the court should abstain from appointing a receiver even with limited powers. The court is fully aware that this result may seem counterintuitive¹ – at least in light of its findings of fact herein. Nonetheless, it is convinced this is the legally correct outcome.

I. Procedural History

On September 16, 2008, Plaintiffs, The Bank of New York Mellon ("BONY"), Financial Guaranty Insurance Company ("FGIC"), and Syncora Guarantee, Inc., f/k/a XL Capital Assurance Inc. ("Syncora"), filed this action against Defendants, Jefferson County, Alabama (the "County"),

¹Perhaps the matter could be oversimplified by saying that Plaintiffs are entitled to prevail on the facts, but the County wins on the law.

Betty Fine Collins, Bobby Humphries, Jim Carns, George Bowman,² and Sheila Smoot. (Doc. #1). In their Complaint, Plaintiffs allege that the County has defaulted on certain contractual obligations related to its borrowing of substantial sums of money. Shortly after filing their Complaint, Plaintiffs also filed an emergency motion asking the court to appoint a receiver over the County's Sewer System (the "Sewer System"). (Doc. #8). The parties have extensively briefed that issue and the court has held two evidentiary hearings on Plaintiffs' Motion. (*See e.g.*, Docs. #9, 11, 30-34, 36-37, 61, 72-76, 79-92).

As the court has consistently and repeatedly reminded the parties, this complex, divisive, and heated controversy will not (and cannot) be satisfactorily resolved by way of any court order – whether from this court or any other. With this reality in mind, the court has, for the past eight months, attempted to give the parties the time and resources to come to a resolution. Unfortunately, this controversy cannot be settled without the cooperation of third parties not before the court. Even more regrettably, those third parties – including the Alabama Legislature and the Jefferson County Legislative Delegation – have not cooperated in seeking a solution to this crisis. There are undoubtedly a number of reasons for that. One of the principal reasons would appear to be politics.³ Thus, despite the fact that the Special Masters – especially Judge John Ott – have made herculean efforts in encouraging a consensual resolution of the financial crisis underlying this lawsuit, the matter raised by Plaintiffs' motion is now under submission with this court. At the last hearing, Plaintiffs vigorously urged the court to stop efforts to foster a settlement and rule on their motion “up

²Upon Bowman leaving the Jefferson County Commission, and being replaced by William Bell, Bell was substituted for Bowman as a party. *See* Order of November 14, 2008.

³As Ronald Reagan once quipped, “It has been said that politics is the second oldest profession. I have learned that it bears a striking resemblance to the first.”

or down.” The court is convinced of two things. First, that strategy is unwise because it abandons, at least temporarily, Plaintiffs’ (particularly the Trustees’) best avenue for resolving this matter. Second, notwithstanding the wisdom (or lack thereof) of their request, we have reached the point where Plaintiffs are entitled to a ruling on their motion.

II. Findings of Fact

The court makes the following findings of fact with respect to Plaintiffs’ Receivership Motion. (Doc. #8).⁴

A. The Issuance of Warrants and the Trust Indenture

In connection with making required improvements to Defendant Jefferson County’s Sewer System, between 1997 and 2003, the County borrowed approximately \$3.6 billion in funds through the issuance of various sewer warrants (“Warrants”). The Warrants are secured by a lien on the revenues generated by the Sewer System that remain after payment of “Operating Expenses.” There are approximately \$3.2 billion in Warrants that remain outstanding.

The Trust Indenture is a document that was entered into by the County upon the issuance of Warrants and sets forth certain obligations of the issuer (the County) in favor of the purchasers of the Warrants. When Warrants are sold, the County essentially borrows money from the general public, the purchasers of the Warrants. The Trust Indenture is the contract that outlines the terms and conditions of the borrowing. The Indenture Trustee, one of the Plaintiffs in this action, is an independent institution that serves pursuant to the terms of the Trust Indenture. The Indenture

⁴To a large degree the court’s findings are based upon the parties’ most recent joint submission. (Doc. #71).

Trustee's function is to represent the holders of the Warrants and ensure that the issuer of the Warrants (*i.e.*, the County) lives up to its responsibilities, as set forth in the Indenture.

B. The County's Historical Approach to Revenue and Debt Service

As early as 1997, the County understood that sewer rates would need to be raised in order to service the then-existing Warrant debt. On February 12, 1997, the Jefferson County Commission approved an amendment (the "Rate Ordinance Resolution") to the County's Sewer Use/Pretreatment Ordinance dated May 11, 1982 (the "Rate Ordinance"). The Rate Ordinance Resolution authorized the County, in connection with the financing of the original sewer debt (and the February 1, 1997 Trust Indenture) to make a "Rate Covenant" designed to maintain net revenues sufficient to service the County's annual debt service on the Warrants. The "Rate Covenant" in the Indenture provided for periodic, automatic rate increases in certain circumstances and was designed to ensure the County's ability to service its debt.

In 2002, Paul B. Krebs and Associates, Inc. ("Krebs"), an engineering firm, as was then its usual and annual practice for the County, analyzed potential sources of revenue for the County's Environmental Services Department ("ESD"). The ESD is the County Department responsible for operating the Sewer System. Krebs issued a report on March 31, 2003 (the "2003 Krebs Report") which concluded that the County required additional revenue to meet its debt obligations and that it should consider various options in addition to rate increases. Tellingly, this 2003 report stated that there can be "no debate about the urgency for action."

C. The County's Decision to Switch to Auction-Rate and Variable-Rate Financing

In a risky attempt to minimize the interest rate costs to the County over the 40-year life span of the various Warrants, between 2001 and 2003 the County issued a substantial amount of variable-

rate demand Warrants and auction-rate Warrants, which took the place of the more conservative, traditional fixed-rate Warrants. Two series of Warrants, the Series 2003-B and Series 2003-C Warrants, in an aggregate principal amount in excess of \$2.2 billion, were issued subsequent to the County's receipt of the 2003 Krebs Report. All but a small portion of the Series 2003-B and Series 2003-C Warrants bore interest at either a variable rate or an auction rate, subject to swap agreements that were sold to the County in an attempt to fix the rates synthetically.⁵ The 2003 Krebs Report, which concluded that the County required additional revenue to meet its then-existing debt obligations, was not attached to any official statement or public documents relating to the issuance of the Warrants.⁶

The debt at issue was primarily incurred to finance certain remediation projects required under a 1996 Consent Decree relating to the County's Sewer System. The 1996 Consent Decree was entered into between the County and the United States Environmental Protection Agency to settle a lawsuit over violations of the Clean Water Act by the County's Sewer System. The remediation work has been fraught with fraud and abuse. Twenty-one former Jefferson County officials or contractors who worked on the Sewer System remediation projects have been indicted and/or convicted of federal crimes related to those projects.⁷ Some of these convictions were for bribery

⁵To be sure, the County originally borrowed (and was loaned) far too much money. Even before the County refinanced the lower, fixed-rate Warrants, there is little question that it would not have been able to pay back the funds borrowed within the time period of the payment schedule.

⁶Further, the County entered into – and still has outstanding – thirteen separate interest rate swap agreements (the “Swap Agreements”) with various financial institutions in a current aggregate notional amount of approximately \$5.4 billion.

⁷At the March 26, 2009 receivership hearing, David Denard, the Director of the ESD, testified that he found himself in the position of Director over the ESD after everyone in authority over him had been convicted of crimes relating to these projects.

of public officials. Three former County Commissioners have been convicted of crimes related to work on the Sewer System. One former Commissioner has pled guilty to accepting bribes in connection with the Warrant transactions and the swap transactions at issue. Another former Commissioner not only has been sued civilly by the Securities and Exchange Commission for allegedly accepting bribes in connection with these transactions, but also, along with two others involved in the transactions, has been indicted in connection with the alleged bribes.

D. The County's Purchase of Municipal Bond Insurance

Upon the issuance of the Warrants, the County purchased municipal bond insurance policies in an attempt to make the Warrants more marketable. These policies were issued to the County by Plaintiffs Syncora and FGIC.⁸ At the time these policies were purchased, Syncora and FGIC were AAA rated insurers. The interest rates on the variable-rate demand Warrants and auction-rate Warrants fluctuate based upon many factors, including the financial condition of the entities guaranteeing those Warrants. The interest rates on the County's Warrants, other than its fixed-rate Warrants, have increased during 2008 for a variety of reasons, including the downgraded ratings of its bond insurers Syncora and FGIC.

E. The Relevant Terms of the Indenture

In the Indenture, the County made a number of promises to the purchasers of its Warrants, including the following:

Section 12.5, "Maintenance of Rates," provides as follows:

- (a) The County hereby covenants and agrees to fix, revise, and maintain such rates for services furnished by the System as shall be

⁸Non-party Financial Security Assurance ("FSA") insures approximately \$352,000,000 in Warrants.

sufficient (i) to provide for the payment of the interest and premium (if any) on and the principal of the Parity Securities [Warrants], as and when the same become due and payable, (ii) to provide for the payment of the Operating Expenses and (iii) to enable the County to perform and comply with all of its covenants contained in the Indenture.

Section 13.1, "Events of Default Defined," defines certain Events of Default as follows:

(a) failure by the County to pay the principal of or the interest or premium (if any) on any Parity Security [Warrant] as and when the same become due as therein and herein provided (whether such shall become due at maturity or by redemption, acceleration or otherwise);

(b) failure by the County to satisfy the Rate Covenant, provided that any such failure shall not constitute an Event of Default if (i) the Trustee receives evidence satisfactory to it that an increase in the rates charged for services furnished by the System has occurred pursuant to the provisions of the ordinance of the County that governs such rates, or (ii) the County employs a utility system consultant to review the System and its existing rates and fees and makes a good faith effort to comply with the recommendation of such consultant;

(c) failure by the County to perform or observe any agreement, covenant, or condition required by the Indenture to be performed or observed by it [other than its agreement to pay the principal of and the interest and premium (if any) on the Parity Securities or the Rate Covenant] after thirty (30) days' written notice (which said notice must state that it is a notice of default hereunder) to it of such failure given by the Trustee or by the Holders of not less than twenty-five percent (25%) in aggregate principal amount of the Parity Securities then outstanding hereunder, unless during such period or any extension thereof the County has recommended and is diligently pursuing appropriate corrective action; ...

In Section 13.2, "Remedies on Default," the County agreed that "upon the occurrence and continuation of any Event of Default, the Trustee shall have the following rights and remedies,"

(a) Upon the occurrence and continuation of any Event of Default described in clause (a) of Section 13.1 hereof, the Trustee shall, and, upon the occurrence and continuation of any other Event of Default described in Section 13.2 hereof, the Trustee may, declare the Parity

Securities [Warrants] to be immediately due and payable, whereupon they shall, without further action, become and be immediately due and payable, anything in this Indenture or in the Parity Securities to the contrary notwithstanding.

(b) The Trustee may, by civil action, mandamus or other proceedings, protect, enforce and compel performance of all duties of the officials of the County, including the fixing of sufficient rates, the collection of revenues, the proper segregation of the revenues of the System and the proper application thereof and may, without limitation of the foregoing, proceed to protect and enforce its rights and the rights of the Parity Securityholders by a suit or suits, whether for the specific performance of any covenant or agreement herein contained or in execution of aid or any power granted herein or for the enforcement of any other proper, legal or equitable remedy, as the Trustee, being advised by counsel, shall deem most effectual to protect and enforce its rights and the rights of the Parity Securityholders hereunder.

(c) The Trustee shall be entitled upon or at any time after the commencement of any proceedings instituted with respect to an Event of Default, as a matter of strict right, upon the order of any court of competent jurisdiction, to the appointment of a receiver to administer and operate the System, with power to fix and charge rates and collect revenues sufficient to provide for the payment of the Parity Securities and any other obligations outstanding against the System or the revenues thereof and for the payment of expenses of operating and maintaining the System and with power to apply the income and revenues of the System in conformity with the Act and the Indenture.

Section 17.3 of the Indenture, "Miscellaneous Special Provisions Respecting the Bond Insurer and the Bond Insurance Policy," provides,

(a) In determining whether a payment default has occurred or whether a payment on the Series 1997-A Warrants or Series 1997-B Warrants has been made under the Indenture, no effect shall be given to payments made under the insurance policy.

F. The County's Failure to Make Payments and Receipt of Forbearance Agreements

In April 2008, the County was unable to make certain required principal payments on the Warrants. The County entered into forbearance agreements with various financial institutions ("Liquidity Banks") delaying the due date on these payments. On or about June 2, 2008, the County made a principal redemption payment on the Warrants from its own funds in partial reduction of the April 1 Redemption Payment. On or about August 1, 2008, the Liquidity Banks, the County, and the Bond Insurers entered into additional forbearance agreements. In those agreements, the Liquidity Banks agreed to accept payments in the aggregate amount of approximately \$79 million in payment of a portion of the April 1 Redemption Payment, a portion of the July 1 Redemption Payment, and certain interest that had previously been deferred, and also granted a forbearance until November 17, 2008. On or about August 1, 2008, the County made a principal redemption payment on the Warrants from its own funds in the approximate amount of \$44 million in partial reduction of the payments required by the August 1, 2008 forbearance agreements.

On or about August 29, 2008, the Liquidity Banks and the County entered into another forbearance agreement until September 30, 2008. Neither FGIC nor Syncora entered into any forbearance agreement with the County after the termination of the August 1, 2008 forbearance agreements on August 29, 2008.

As a result of the County's failure to make certain payments due on the Warrants, the Indenture Trustee made claims on each of FGIC, Syncora, and FSA under their respective insurance policies. Plaintiffs Syncora and FGIC have made substantial principal payments on the County's

Warrants which the County did not make when due pursuant to redemption notices respecting the Warrants.

The County failed to make payments of principal installments due on the Warrants (Parity Securities under the Indenture), called for redemption on June 1, 2008, August 1, 2008, and October 1, 2008, pursuant to the terms of the Indenture and certain Standby Warrant Purchase Agreements. Sewer System net revenues are not sufficient to service the County's current debt obligations. Further, the County has failed, pursuant to the Indenture, to fix, revise, and maintain rates that are sufficient to make required principal payments. The County has not raised sewer rates since January 2008, pursuant to the Rate Covenant or otherwise, despite the fact that Sewer System net revenues are not sufficient to service the Sewer System's current debt obligations.

Plaintiffs⁹ initiated this action on September 16, 2009. In their Complaint, Plaintiffs assert the following claims: Count I - for the Appointment of a Receiver Pursuant to Indenture; Count II - for the Appointment of a Receiver Pursuant to Alabama Law; Count III - for Enforcement of Consent Decree; Count IV - for the Appointment of Interim Receiver; Count V - Mandamus (only against the Commissioners) (seeking compliance with the terms of the Indenture); Count VI - for Specific Performance of Obligations Under the Indenture; and Count VII - for Breach of Standby Warrant Purchase Agreements. (Doc. #1).

⁹The County has argued that Syncora and FGIC lack standing to assert claims made in the Complaint. Regardless of whether the Insurers lack standing to bring this action, it is undisputed that The Bank of New York Mellon, as Indenture Trustee, does have standing and has asserted, on behalf of the Warrant holders, all the claims made against the County and the Commissioners.

III. Legal Analysis

Shortly after filing their Complaint, on September 23, 2009, Plaintiffs filed an Emergency Motion for the Appointment of a Receiver over the Sewer System of Defendant Jefferson County, Alabama. (Doc. #8). After permitting discovery, conducting pre-hearing conferences, and permitting the parties time to seek a voluntary resolution of this controversy, on March 26, 2009, the court held an evidentiary hearing on the issue of whether Plaintiffs were entitled to the appointment of a receiver. Just days before that hearing, for the first time, Defendants raised a number of issues with regard to whether this court has jurisdiction to hear this case and decide the issues raised in Plaintiffs' Emergency Motion for the Appointment of a Receiver. All of these matters have now been fully briefed, and an additional evidentiary hearing was conducted on June 1, 2009. (*See generally* Docs. #71-96).

A. The Remedy of Appointing a Receiver Over the Sewer System is Warranted by the Facts of This Case

The appointment of a receiver over the Sewer System is a remedy that was agreed to by the County at the time it executed the Indenture, in the event it violated certain of its obligations under the Indenture. The Eleventh Circuit has unequivocally stated that courts sitting in diversity should follow federal law in making the determination of whether to appoint a receiver. *National Partnership Inv. Corp. v. National Housing Development Corp.*, 153 F.3d 1289, 1291-92 (11th Cir. 1998) (“[F]ederal law governs the appointment of a receiver by a federal court exercising diversity jurisdiction.”). Moreover, federal courts have recognized in certain cases involving private sector entities that appointment of a receiver is appropriate where the parties have contractually agreed to a receivership. *See, e.g., Britton v. Green*, 325 F.2d 377, 382 (10th Cir. 1963); *Garden Homes, Inc.*

v. U.S., 207 F.2d 459, 460 (1st Cir. 1953); *American Bank and Trust Co. v. Bond Intern. Ltd.*, 2006 WL 2385309, *7 (N.D. Okla. 2006) (“Appointment of a receiver is appropriate where the parties have contractually agreed to a receivership.”); *Pioneer Capital Corp. v. Environamics Corp.*, 2003 WL 345349, *9 (D. Me. 2003) (concluding that “the existence of an express contractual right to appointment of a receiver, coupled with ‘adequate prima facie evidence of a default,’ can be sufficient to warrant such an appointment”); *Okura & Co. (America), Inc. v. Careau Group*, 783 F. Supp. 482, 499 (C.D. Cal. 1991) (finding that the appointment of a receiver pursuant to a Deed of Trust and Security Agreement was necessary to protect the plaintiff’s interest).

Section 13.2 of the Indenture provides that the appointment of a receiver is a remedy available for “the occurrence and continuation of any Event of Default,” Plaintiffs have alleged nine different types of Events of Default by the County:

1. Failure to pay principal on the Warrants when due on each of June 2, 2008, August 1, 2008, October 1, 2008, January 1, 2009, February 20, 2009, and April 1, 2009;
2. Failure to fix, revise, and maintain rates which are sufficient to pay debt service obligations, as required under § 12.5(a) of the Indenture;
3. Failure to make increases in rates and charges as necessary to comply with § 12.5(b) of the Indenture;
4. Failure to comply with the Rate Covenant set forth in § 12.5(b) of the Indenture;
5. Failure to deliver to the Trustee by December 10, 2008, notice of the County Finance Director’s determinations and conclusions, as required under § 12.5(c) of the Indenture;
6. Failure to increase sewer rates on January 1, 2009, as required under § 12.5(c) of the Indenture;

7. Failure to make required deposits into the Debt Service Fund, Reserve Fund, Rate Stabilization Fund, and Depreciation Fund, as required under § 11.1 of the Indenture;
8. Failure to satisfy the Reserve Fund Requirement, as required under § 11.3 of the Indenture; and
9. Failure to make required deposits into the Reserve Fund as a result of the Insurers' downgrades, as required by § 11.11 of the Indenture.

(Doc. #86 at 28; Doc. #89 at 16-44).

In issuing the Warrants and borrowing money from the general public, the County agreed that, upon the commencement of any proceedings instituted with respect to an Event of Default, that “as a matter of strict right, upon the order of any court of competent jurisdiction,” the Trustee would be entitled “to the appointment of a receiver to *administer and operate* the System . . .” Indenture Section 13.2(c) (emphasis added).

The evidence is overwhelming (if not undisputed) that the County has engaged in – and is continuing to engage in – Events of Default. For example, it has not made certain required principal payments; it has failed to fix, revise, and maintain rates which are sufficient to pay its debt obligations; it has not complied with the Rate Covenant; it has failed to comply with the notice requirements under Section 12.5(c) of the Indenture; and it has failed to make payments into various funds as required under Section 11.1 of the Indenture. Thus, the question here is not whether the County has defaulted, but whether the court should appoint a receiver as a remedy for those Events of Default.

“Courts have recognized many factors that are relevant for a court to consider when determining the appropriateness of the appointment of a receiver. These include fraudulent conduct on the part of the defendant, ...; imminent danger that property will be lost or squandered, ...; the

inadequacy of available legal remedies, ...; the probability that harm to the plaintiff by denial of the appointment would be greater than the injury to the parties opposing appointment, ...; the plaintiff's probable success in the action and the possibility of irreparable injury to his interests in the property, ...; and whether the interests of the plaintiff and others sought to be protected will in fact be well served by the receivership, ...” *Consolidated Rail Corporation v. Fore River Railway Co.*, 861 F.2d 322 (1st Cir.1988) (citations omitted); *see also Santibanez v. Wier McMahon & Co.*, 105 F.3d 234 (5th Cir.1997). Below, the court examines each of these factors in order, and also looks at the question of whether equitable principles counsel against enforcing this particular term of the Indenture.

1. Whether There Has Been Fraudulent Conduct on the Part of the Defendant

Plaintiffs contend that there is at least an appearance of fraudulent conduct on the part of the County given what they describe as “massive corruption” surrounding the County’s Sewer System construction and issuance of Warrants. They also assert that the County, since 2003, has suppressed information that would indicate that its sewer revenues were insufficient to meet its debt obligations. The court will discuss these assertions in turn.

To date, twenty-one former Jefferson County officials or contractors who worked on the Sewer System remediation projects have been indicted for federal crimes related to those projects. David Denard, the current Director of the ESD, testified at the March 26 hearing that he found himself in the Director position after everyone in a position of authority over him in the ESD had been convicted of crimes relating to these projects. Three former County Commissioners have been convicted of crimes related to the Sewer System. One former Commissioner has pled guilty to accepting bribes in connection with the re-financing of the Sewer System debt. Another former

Commissioner not only has been sued civilly by the Securities and Exchange Commission for allegedly accepting bribes in connection with such transactions, but also, along with two others involved in the transactions, has been indicted in connection with the alleged bribes.

Plaintiffs have also presented compelling evidence that the County has been aware, since at least March 2003 (if not before), that its net sewer revenues were insufficient to service its debt load. It was in March 2003 that the County received the 2003 Krebs Report. Despite issuing additional Warrants later in 2003, it did not reveal this information to potential investors. The County utilized the Krebs firm from 1997 to 2003 in order to evaluate the adequacy of sewer system rates and charges. Prior to 2003, the reports issued by Krebs were generally optimistic about the County's ability to service the required debt payments from its sewer revenues; indeed, the County routinely attached these reports to its Official Statements for the various Warrant issuances to support the notion that net system revenues were adequate to meet its operating and debt service requirements. However, the 2003 Krebs Report presented a much bleaker picture: it explicitly stated that the size of the sewer debt presented a major problem for the County, and warned that the County would need a dramatic 89% increase in sewer revenue to meet its future debt obligations. Krebs recommended that the County take immediate action to raise additional system revenue, and warned that if it did not do so, the consequences would be severe. As the 2003 Krebs Report stated:

[W]hen the alternative of obtaining revenues through a plan over which the Commission has some control is compared with the action of a receiver should the system go into default, there can be little question as to which course of action would be preferable. There can also [be] no debate about the urgency for action; this is not a matter on which action can be long deferred without serious consequences.

2003 Krebs Report. Jt. Ex. 35.

Rather than heed this warning, the evidence before the court suggests that the County suppressed the 2003 Krebs Report and took little (if any) steps to generate the additional revenues which would be required to meet the looming sewer debt crisis. Even worse, the County refinanced more than \$2 billion of its fixed-rate Warrants to auction and variable-rate Warrants,¹⁰ and in doing so did not disclose the existence of the 2003 Krebs Report to any of the Warrant purchasers.

Based on the foregoing, the court finds the record which is now before the court is replete with evidence of fraudulent conduct and suppression by the County and its various representatives.¹¹ Therefore, the evidence before the court on this factor weighs in favor of appointing a receiver.

2. Whether There is an Imminent Danger that Property Will be Lost or Squandered

The County has frequently asserted, in this litigation and elsewhere, that the only recourse available to Plaintiffs and the Warrant holders is the net revenues of the Sewer System. The evidence presented to the court indicates that the County has for years known that System revenues (the only recourse available) were insufficient to cover its obligations on this debt. There is also evidence that, despite this knowledge, for years the County failed and/or refused to investigate whether sewer revenues were (1) maximized and (2) sufficient to cover the County's debt obligations related to the System. One member of the County Commission, whose responsibilities include overseeing the Sewer System, has not only refused to take action, but has openly advocated reducing

¹⁰The May 1, 2003 and August 5, 2003 Warrant issuances were projected to result in an average annual savings to the County of 15.1% for the first seven years. Savings were projected to be negative for several years thereafter. Obviously, these issuances fell far short of resolving the County's impending revenue shortfall.

¹¹This is not to say that there is not evidence of fraudulent conduct by other parties. However, that information is not relevant to the current inquiry.

sewer rates, declaring bankruptcy,¹² and/or making payments from net sewer revenues that are insufficient to service the debt load.

Plaintiffs have presented evidence that the County has been wasting available System revenues for years. The mismanagement is evidenced by the fact that the County has ignored the advice of consultants who since 2003 have warned the County that its financial condition was unsustainable. For example, the court has already detailed the evidence relating to the County's ignoring (and suppressing) the Krebs Report. But there is more.

The County's failure to address its crisis has developed into a pattern of inaction over the years. In 2003, after receiving the Krebs Report, the County retained new advisors – the professional firm of BE&K, Inc. (“BE&K”) – to study the problem. BE&K issued a report advising that “sewer rates must be increased” beyond the automatic increases under the County's Rate Ordinance Resolution. The report forecasted that the County's projected sewer rate increases would be insufficient to cover its debt obligations and that “a level 12.5-percent increase in 2004 through 2011 would meet needed revenue requirements and help stabilize rate increases.” Jt. Ex. 37. The County, however, did not raise rates in the manner recommended by BE&K.

In 2007, the County retained another professional firm, Red Oak Consulting (“Red Oak”). Red Oak issued a report advising the County that if the debt service costs became higher than initially projected, the County would need “significant” increases to its sewer rate revenues in order

¹²In fairness, at the June 1, 2009 evidentiary hearing, each of the Commissioners, including Commissioner Carns, indicated that they did not then believe bankruptcy to be a suitable option. In response to inquiries from the court, they also each said they were willing to jointly agree to the retention of a consultant to examine whether rates are reasonable, and whether rates should be raised or reduced. It was Plaintiffs who balked at this idea.

to service the debt. The Red Oak report also recommended other revenue enhancements. Again, none of these recommendations were adopted by the County.¹³

In the face of consistent input from rate experts that net sewer revenues were insufficient to operate and pay its debt obligations, the County went in the *opposite* direction. It suspended the automatic rate increase that was due for 2009 under the County's automatic rate adjustment resolution. Accordingly, even today, rates remain at the same level at which they were set on January 1, 2008.

The most recent example of the County's refusal to deal with its sewer debt crisis can be seen in the County's response to the Special Masters'¹⁴ Report, dated January 20, 2009 and its snail-like pace in engaging yet *another* rate consultant. The Special Masters' Report contains numerous substantive recommendations for increasing revenues and decreasing expenses. Plaintiffs have presented evidence demonstrating that, at least since early 2008, the Commissioner in charge of the

¹³In addition, in May 2008, counsel for FGIC and Syncora retained the professional firm R.W. Beck, Inc. ("R.W. Beck") to conduct an assessment of the System and to identify potential revenue enhancements and expense reductions, separate and apart from volumetric sewer rate increases, which could be implemented by the County to assist with meeting its debt obligations. Darrell Cline of R.W. Beck issued a report (the "Cline Report") which made a number of recommendations about how to increase revenues. These recommendations were discussed with the County in or about May 2008 and R.W. Beck's draft report detailing these recommendations was provided to the County in October 2008. In November 2008, the County stipulated that the revenue enhancements proposed by the Cline Report (other than the Clean Water Fee, 15% residential discount, and the termination of the private water meter program) are potential sources of revenue that should be examined by the County Commission (Jt. Stmt. ¶85); yet, to date, the County Commission has not adopted any of the Cline Report proposals.

¹⁴John Young was the County's nomination to serve as Special Master. Plaintiffs nominated John Ames. By Order dated November 25, 2008, the court appointed Mr. Young and Mr. Ames to serve as co-Special Masters to investigate the System and make recommendations regarding, *inter alia*, enhancement of revenues, rates, and potential reductions in expenses.

Sewer System has been largely disengaged in any efforts to enhance revenue.¹⁵ He is not alone. At the February 25, 2009 hearing in this case, the court explicitly directed the County not to remain disengaged, but to make a genuine response to the Special Masters' recommendations in order for the court to understand what action, if any, the County intends to take.

In response, on March 17, 2009, the County Commission passed a resolution, by a 3-2 margin which, at best, paid lip service to the directions of the court. *See* Jt. Stmt. ¶90; Jt. Ex. 73. Other than beginning the process to establish a \$12, one-time private meter administration fee, the County has implemented none of the specific revenue enhancements suggested by the Special Masters. Nor has the County indicated any intention to raise sewer rates. In fact, at the June 1, 2009 hearing, the Commissioners unanimously stated they will not consider raising rates. Further, although the County has indicated it will hire a consultant, Raftelis, it has only authorized Raftelis' hiring for a very limited purpose¹⁶ – reviewing and advising the Commission with respect to four specific items: (1) a fixed fee for sewer charges (to replace the minimum monthly fee); (2) impact fees; (3) industrial surcharge and septage rates; and (4) credit for residential customers for water not returned to the

¹⁵During the period of time in which the Special Masters were developing their Report assessing the operation of the ESD, Commissioner Carns only met with them once (for about twenty minutes) and failed to discuss anything of substance. Despite the fact that he felt like he had only limited information about the Special Master process and may not have understood it, he made no effort to contact the Special Masters to receive more information or become in any way involved in the process. (*See, e.g.*, Doc. #81, Ex. 2 and 3 at 9-10, 27-28, 69, 70-71). Further, at the hearing on June 1, 2009, Commissioner Carns was an advocate of standing still (*i.e.*, offering Plaintiffs and the Liquidity Banks only net sewer revenues – which are decreasing even beyond what was budgeted for 2009), rather than developing a plan to solve his department's financial woes. This is the case despite the fact that, in 2006, before he took office and after studying the Sewer Systems finances, Commissioner Carns noted that the System would go "belly up." (Carns Depo. at 14:1-15:7; 51:3-12 (Oct. 22, 2008)).

¹⁶Apparently, the County hired Raftelis in an effort to excuse its default under Section 13.1(b) of the Indenture.

System. Over two and a half months have passed while the County has been “discussing” a contract with Raftelis and it expects it will take even more time to complete its negotiations (just to enter into a contract). To say that the County has not made retaining a rate consultant a priority would be a gross understatement.

The County has taken little if any action since the onset of this crisis to generate additional revenues. Its plan to use System revenues to hire yet another consultant to advise it on a number of items (on which it has already received sound advice from various other well-respected consultants) seems pointless when the previous advice it has received has been ignored. Since it is apparent that any professional advice given to the Commission with respect to System improvements falls on deaf ears, Plaintiffs can take little solace in the County’s stated intention to use Raftelis. Moreover, the County has been given ample time to get its plan of action in order, but unfortunately the evidence of record shows the County has no viable plan. And while a complete resolution of the County’s debt crisis will no doubt require action by parties other than the County, the County’s full engagement in this process is a necessary and crucial piece of the puzzle needed to return the Sewer System to financial viability. As Plaintiffs have asked rhetorically: “How can the County (and this Court) expect the various parties in Montgomery, Washington, D.C. and New York to make the significant concessions that have been asked of them if the County will not do the things that are necessary to help itself?” The County has demonstrated that it is unwilling to make the hard and politically unpopular – but necessary – decisions to recover financially.

In addition, David Denard, Director of ESD, testified that the County makes no attempt to determine whether a particular expense should appropriately be characterized as an operating expense. Hearing Tr. 182:21-185:8 (Mar. 26, 2009). This has led to the improper classification of

a number of expenses, which has diverted substantial net revenues from the Sewer System and caused significant harm to Plaintiffs and the Warrant holders.

As discussed above, during the course of this litigation, the court appointed Special Masters who made substantial efforts to assist the County in overcoming its paralysis in dealing with the financial woes of its Sewer System. Among other things, the Special Masters prepared a report that contained a number of suggestions for the County to consider. Although the County asserts that it “has engaged fully in the [Special Master] process the Court crafted and is striving to resolve the sewer crisis” (Def. Br. at 12), that assertion is simply off the mark. The Commissioner responsible for the ESD not only pleaded “the Fifth Amendment” when asked if he supports the special master process, he also openly criticized one of the Special Masters in a press release. This was the case despite the fact that he only met with the Special Masters on one occasion for approximately twenty minutes and failed to discuss anything of substance with regard to the Special Masters’ efforts to streamline the operations of the Sewer System. And ironically, the Special Master criticized was originally nominated by the Commissioners’ counsel. There was no basis in fact or logic for the criticisms. Indeed, at the June 1, 2009 hearing, the Commissioner in question conceded that the Special Masters are not operating under any conflict of interest.

All counsel in this case have agreed that the Special Masters have been of great service to the parties and the court. For example, it was the Special Masters who initially observed the County is presently facing a budget shortfall of \$17 to \$20 million.¹⁷ They have attempted to engage the

¹⁷With respect to this issue, Commissioner Carns’ deposition testimony is straightforward and revealing: he was not aware that the County’s ESD faced that large of a budget shortfall and neither he (nor anyone else with the County) has any plan in place to recoup the approximate \$17 to \$20 million revenue hole in the 2009 budget.

County regarding policy and operational improvements to the Sewer System, as well as mediate between the parties (and others) regarding a global resolution of this crisis. Their performance has been beyond superior.

Finally, as to the squandering of assets, at the June 1 hearing, testimony was presented that established that there are a number of ESD customers who have received services for which they did not pay. In some circumstances, this had gone on for up to five or six years. Although the ESD is now attempting to recoup some of this lost revenue, the County has inexplicably decided to only seek payment for one year of unbilled service. This is clear evidence of the squandering of assets. Thus, there is ample evidence on which to base the conclusion that it is likely some assets will continue to be lost or squandered,¹⁸ and the analysis of this factor weighs in favor of appointing a receiver.

3. Whether the Availability of Legal Remedies is Inadequate

The Warrants at issue are non-recourse debt. Thus, any judgment in this action must be paid from the sewer revenues which are undisputedly inadequate. If one thing in this case is abundantly clear, it is this: net sewer revenues have been (and still are) insufficient to support the Sewer System's debt service, even if that debt amount does not account for accelerated principal payments

¹⁸One more observation is in order. The court is unsure of the implications of the Commissioners' vote not to rescind a resolution to pull out of the region's Storm Water Management Authority ("SWMA"). The apparent effect of the vote is that the County will assume the salaries and benefits of 15 employees, at a cost of over \$1,000,000, to perform tasks which, under the SWMA, cost the County approximately \$400,000 per year. In explaining his position (opposing the position of Commission President Bettye Fine Collins), Commissioner Carns stated, "We can do that. I haven't worked all the details out yet, but we can certainly do it, . . . I've got them worked out in my head, but I'm not ready to come forth with them right now." It is troubling that during a time when it does not have sufficient revenue to operate and service its debt, the County is taking on new employees and substantial expenses.

and higher interest rates caused by market factors and the downgrade of the County's insurers' ratings. Therefore, this factor also weighs in favor of appointing a receiver.

4. Whether there is a Probability that Harm to Plaintiffs by Denial of the Appointment of a Receiver would be Greater than the Injury to the Parties Opposing Such an Appointment

The County argues that it is implementing many of the recommendations of the Special Masters and that a receiver could not do a better job than the Commission of running the Sewer System. Its argument is principally supported by the testimony and opinions of those who have been and currently still are in charge of the Sewer System.

However, there is no evidence that the County, who opposes appointment of a receiver, would be harmed by the appointment of a receiver. The County has introduced evidence of the awards its Sewer System received for such things as its quality work in the clean water category. But the salient contention here is not that the County is failing to run a quality shop. Rather, the point is that the County is not administering the Sewer System in a fiscally responsible manner. Thus, although clearly the Commission is uncomfortable with the idea that it would lose some control over the Sewer System, there is nothing in the record to suggest it would be harmed by a receiver's better management of its administrative and financial operations.

To the contrary, a receiver would *enhance* the operational efficiencies of the Sewer System. He would maximize revenues, attempt to make the Sewer System a more streamlined operation, and help it pay its debts. Although the parties disagree as to whether a receiver should be appointed, they are in apparent agreement that John Young, one of the Special Masters, would be a good candidate for that position. Among other things, he has professional experience privately operating sewer systems. If he is not successful in that field, he, unlike the County, will be out of business. The

court fails to see how the appointment of someone with professional experience running a sewer system in the place of a five-member Commission with no such experience, would harm the County. Thus, the evidence on this factor weighs in favor of the appointment of a receiver.

5. Whether Plaintiffs Will Probably Succeed in this Action

Plaintiffs have alleged nine types of Events of Default and have presented evidence supporting each of their claims. Admittedly, the County has asserted defenses to some of these claims. As to the first alleged Event of Default, *i.e.* the County's failure to pay principal on the Warrants when due on each of June 2, 2008, August 1, 2008, October 1, 2008, January 1, 2009, February 20, 2009 and April 1, 2009, the County can hardly dispute that it did not make these payments in full. Nevertheless, the County attempts to dispute that these are Events of Default. According to the County, the fact that the insurers made these payments on its behalf somehow cures these Events of Default. This argument simply ignores Section 17.3 of the Indenture, "Miscellaneous Special Provisions Respecting the Bond Insurer and the Bond Insurance Policy," which provides in relevant part,

(a) In determining whether a payment default has occurred . . . , no effect shall be given to payments made under the insurance policy.

Therefore, it appears that Plaintiffs will have probable success in litigating this Event of Default.

It is also undisputed that the County failed "to satisfy the Rate Covenant." The County argues this is not an Event of Default because it has employed "a utility system consultant to review the System and its existing rates and fees and [made] a good faith effort to comply with the recommendation of such consultant." Indenture Section 13.1(b). In January, the County passed a resolution essentially determining that it would not comply with the Rate Covenant. Not until mid-

March did it pass a resolution authorizing the hiring of a utility system consultant. However, the resolution only authorizes the County to hire the proposed utility consultant to “advise the Commission on the appropriate amounts for a. a fixed monthly fee for sewer service (to replace the current minimum monthly charge); b. impact fees; c. industrial surcharge and septage rates; and d. credit for residential customers for water not returned to the sewer system.” (Doc. #72, Appendix 1.) Despite the fact that the resolution authorizing the hiring of a rate consultant was passed in March, testimony at the June 1, 2009 hearing established that the consultant had not yet been hired, and that some seventy plus days after the resolution passed, there is still no agreement as to the scope of work the consultant would perform. It was anticipated that the agreement on the scope of work would take approximately sixty more days. However, the Commission’s resolution does not authorize the hiring of a utility consultant “to review the System and its existing rates and fees.” The Commission’s resolution appears to contemplate a much narrower role for this utility consultant. Moreover, at the June 1 hearing, the Commissioners made it quite clear that they would not consider raising rates. Based on this evidentiary record, the County cannot rely on Section 13.1(b) of the Indenture to excuse its failure to comply with the Rate Covenant.

As to other types of Events of Default, the County has repeatedly protested that a large portion of its financial woes were caused by the downgrade of the Insurers’ credit ratings and, thus, these Events of Default should not be held against it. This argument suffers from at least three fatal flaws. First, the County voluntarily exposed itself to these risks when it replaced its fixed-rate financing with adjustable-rate financing. Second, this argument only applies to claims by the *Insurers*; the *Trustee*, also a plaintiff, is blameless in this regard. Finally, the record before the court makes it crystal clear that the County could not afford to pay back the initial amounts it borrowed

at the fixed rates it enjoyed even before it opted to venture into the variable and auction-rate market.

For these reasons, the County's assertion is off the mark.

Based upon the evidence presently before the court, the court finds that Plaintiffs have a probability of success on the merits.¹⁹ Therefore, this factor weighs in favor of appointing a receiver.

6. Whether the Interests of Plaintiffs and Others Will be Well Served by the Receivership

Frankly, analysis of this factor requires speculation. However, the evidence regarding the County's failure or refusal to act (or at best its glacial speed in acting) to resolve the issue of insufficient sewer revenues compels the conclusion that the interests of Plaintiffs and others may well be served by the appointment of a receiver.

7. Whether Equitable Principles Counsel Against Enforcing the Terms of the Indenture²⁰

Facing the compelling evidence of Events of Default on its part, the County now argues that its contractual obligations should be ignored and equitable principles applied to deny Plaintiffs' enforcement of the express terms of the Indenture. The words of Judge Kristi Dubose in *Wachovia Bank v. Bon Secour Village, LLC*, Case No. 1:07-CV-00861-KD-C, pending in the Southern District of Alabama, are equally applicable here: "There has been no evidence presented to persuade the Court that the terms of the contract should be ignored in favor of equitable principles." (Southern

¹⁹In fairness, the court is perplexed by the issue of whether Plaintiffs were required to present their receivership claim to the County pursuant to Alabama Code § 6-5-20. Indeed, that is the only factor that causes the court to hesitate in finding that Plaintiffs are likely to succeed on the merits of the receivership claim.

²⁰The court distinguishes this question – whether equitable principles counsel against appointment of a receiver – from the separate issue of whether jurisprudential factors (*i.e.*, the doctrine of abstention) suggest such an appointment would be improper. The court addresses the latter issue *infra*.

District of Alabama Case No. 1:07-CV-00861-KD-C, Doc. #25 at 5). Rather, analysis of the relevant factors leads this court to the conclusion that a receiver should be appointed.

Having considered the appropriate factors and found that an analysis of the factors weighs in favor of the appointment of a receiver, and considering the fact that the County entered into agreements *twelve times* promising that a receiver would be an appropriate remedy in the event of default, the court concludes that Plaintiffs have presented sufficient evidence indicating their entitlement to this remedy.

Notwithstanding the court's findings of fact and conclusions regarding the availability of a receivership remedy, the County has raised significant arguments about this court's jurisdiction to impose that remedy. It is unfortunate that the County did not proffer these arguments earlier in this litigation. However, these jurisdictional issues cannot be ignored.

B. The Johnson Act Prohibits this Court from Exercising Jurisdiction to Appoint a Receiver with Rate-Making Powers

_____ From the outset of this case, it has been clear that Plaintiffs clearly desire the appointment of a receiver who has the power to raise rates in order to maximize the Sewer System's revenues. In response to that particular request for relief, Defendants have argued that this court is precluded from exercising jurisdiction to appoint a receiver with the authority to affect sewer rates under the Johnson Act. The Johnson Act provides as follows:

The district courts shall not enjoin, suspend or restrain the operation of, or compliance with, any order affecting rates chargeable by a public utility and made by a State administrative agency or a rate-making body of a State political subdivision, where:

- (1) Jurisdiction is based solely on diversity of citizenship or repugnance of the order to the Federal Constitution; and,
- (2) The order does not interfere with interstate commerce; and,
- (3) The order has been made after reasonable notice and hearing; and,

(4) A plain, speedy and efficient remedy may be had in the courts of such State.

28 U.S.C. § 1342. The Johnson Act “has been broadly construed to prohibit federal court actions that indirectly as well as directly affect rate orders.” *Carlin v. Southern Bell Tel. & Tel. Co.*, 802 F.2d 1352, 1356 (11th Cir. 1986); *accord, e.g., U.S. West Inc. v. Tristani*, 182 F.3d 1202, 1207 (10th Cir. 1999) (Act “broadly applied” to prohibit “challenges to orders affecting rates”) (quoting *Hanna Mining Co. v. Minnesota Power & Light Co.*, 739 F.2d 1368, 1370 (8th Cir. 1984)); *Brooks v. Sulphur Springs Valley Elec. Coop.*, 951 F.2d 1050, 1053-54 (9th Cir. 1991) (Act “broadly construed” to bar “all challenges affecting rates”) (quoting *Miller v. New York State Publ. Serv. Comm’n*, 807 F.2d at 28, 31 (2d Cir. 1986)). Under this “effects test,” the Act is inapplicable only when “the relief [the plaintiff] seeks, if granted, would not in any way affect the rates established” by the ratemaking authority. *Carlin*, 802 F.2d at 1356.²¹

“It is the general view that this Act requires all four conditions to be present before the Act can apply and thereby limit the court’s jurisdiction.” *DeKalb County v. Southern Bell Telephone and Telegraph Co.*, 358 F.Supp. 498, 504 (N.D. Ga. 1972), *aff’d*, 478 F.2d 700 (5th Cir. 1973) (citing *United States v. Public Utilities Comm. of Cal.*, 141 F.Supp. 168, 183 (N.D. Cal. 1956); *aff’d*, 355 U.S. 534 (1958)). It comes as no great surprise that the parties disagree about the application of the four conditions and whether the Johnson Act applies to bar this court from appointing a receiver with rate-making authority. Plaintiffs’ arguments regarding the Johnson Act are somewhat of a moving target. As best the court can tell, however, they argue that the Johnson Act does not apply for several

²¹Both Plaintiffs’ demotion of *Carlin* to a footnote and their repeated refusal to engage the “effects test” that *Carlin* embodies (consistently with every other court of appeals to address the issue) are telling. (See Doc. #86 at 10 n.13).

reasons. First, they contend that because they are not challenging an order setting rates, but rather are seeking the appointment of a receiver to stand in the shoes of the County with respect to the enforcement of an order regarding rates, the Act does not apply.²² Second, they argue that this matter is not in this court based solely on diversity jurisdiction in that they seek to enforce the 1996 Consent Decree resolving violations of the Clean Water Act. Third, they assert that the rate order at issue has an effect on interstate commerce because it affects the County's ability to make payments to Warrant holders who reside out of state. Finally, they argue that a plain, adequate and speedy remedy is not available in state court because in another case filed against Jefferson County (initiated on the same date as this case and discussed more fully below), all of the judges in Jefferson County recused themselves, and the Alabama Supreme Court has yet to assign the case to a judge who has not recused. They predict that the same result will occur in this case. For the reasons explained below, the court finds that each of these arguments are unavailing.

1. Plaintiffs' Claims and Their Requested Relief of the Appointment of a Rate-Making Receiver Implicate the Johnson Act

Plaintiffs argue that the Johnson Act does not apply because they claim they do not challenge or seek to enjoin an order affecting rates. They argue further, without citation to any applicable

²²Plaintiffs' Counsel: "We're not asking you to enter an order to set a rate or affect a rate

...."

The Court: "You're asking me to appoint a receiver to set a rate and affect a rate."

Plaintiffs' Counsel: "That's right."

(*Id.* at 18-19; *see also* Tr. of March 26 Hearing at 36-38). Plaintiffs make the same argument in their brief: "In appointing a receiver, the Court would not be enjoining a rate order, because the Court would not be changing rates, the receiver would." (Doc. #86 at 8).

authority, that if the relief they seek is granted, the receiver would merely step into the County's shoes with the ability to set rates.

The flaw in Plaintiffs' argument is this – the courts have recognized that the Johnson Act applies not only to frontal attacks on orders affecting rates, but also to “federal court actions that indirectly as well as directly affect rate orders,” *Carlin Communication, Inc. v. Southern Bell Tel. & Tel. Co.*, 802 F.2d 1352, 1356 (11th Cir. 1986). Indeed, the Eleventh Circuit has indicated that it believes the Johnson Act has broad application. In *Marshall County Bd. of Educ. v. Marshall County Gas District*, 992 F.2d 1171, 1177 (11th Cir. 1993), the Eleventh Circuit did “not reach the question of whether the Johnson Act bars jurisdiction,” but it nonetheless noted that “the unambiguous language of the statute expresses Congress' intent that federal courts should not interfere with a state's control over public utility rates.” Plaintiffs seek to have this court impose *injunctive relief*, (*i.e.* the appointment of a receiver) upon Defendants which *would* have an effect on an order affecting rates (*i.e.* the Rate Ordinance). Specifically, Plaintiffs seek the appointment of a receiver with the power to raise rates and the power to impose other fees on Sewer System customers and even non-customers. In this Circuit (and others) the Johnson Act has not been given the narrow interpretation urged by Plaintiffs. Therefore, consistent with its remarks at the March 26 and June 1, 2009 hearings and its discussion below, the court finds that the Johnson Act applies to bar this court from imposing any injunctive relief which would affect sewer rates in any manner.²³

²³In this case, the issue regarding rates is, at least in part, the fact that Defendants *have not* raised rates. Moreover, they *have not raised rates* even in the face of the 1997 Rate Order and Resolution which provides for annual automatic rate increases based on a specified formula which requires an increase in rates. To avoid a January 2009 rate increase, Defendants passed a resolution which had the effect of not complying with the Rate Order and Resolution. Plaintiffs seek injunctive relief, *i.e.*, the appointment of a receiver, who could step in and raise rates, either in compliance with the 1997 Rate Order and Resolution, or otherwise (in further contravention of the 1997 Rate Order

Based on the foregoing, it is crystal clear that the relief sought by Plaintiffs is injunctive and would have an effect on an order affecting rates. Therefore, the threshold issue of whether the Johnson Act applies is properly before the court. Further, analysis of “the other necessary conditions of the Johnson Act” reveals that they “are present to exclude jurisdiction.” *DeKalb County*, 358 F.Supp. at 504.

a. Jurisdiction is Based Solely on Diversity of Citizenship

The next argument advanced by Plaintiffs to avoid application of the Johnson Act is that this action is not based solely on diversity. Rather, Plaintiffs have attempted to invoke federal question subject matter jurisdiction under the Consent Decree entered into on December 9, 1996. The argument is simply a thinly veiled attempt to skirt the Johnson Act. At the court’s behest, albeit admittedly before the Johnson Act issues were raised, the parties entered into certain stipulations regarding undisputed matters in this case. Among the matters to which the parties stipulated is that Plaintiffs are *not* seeking the emergency appointment of a receiver under the Consent Decree. “At this time, the Plaintiffs are not asserting that a receiver is necessary to ensure the sewer system’s compliance with the Consent Decree or Clean Water Act.” (Doc. #75 at 12, ¶ 97). In the same filing, Plaintiffs also agreed that the court’s jurisdiction had been invoked in diversity. (*See id.* at 29, ¶ 3). These stipulations are consistent with Plaintiffs’ admission that they “are not seeking to enforce the terms of the Consent Decree.” (Doc. #32 at 16, ¶ 147) (Plaintiffs’ position)). Thus, Plaintiffs have previously stipulated (1) that they are not seeking to enforce the terms of the Consent Decree, (2) that they are not asserting that the appointment of a receiver under the 1996 Consent

and Resolution). To the extent that this court appoints a receiver with the ability to affect rates, that injunctive relief *would have* an affect on the 1997 Rate Order and Resolution in that the receiver would either bring the County into compliance with that Order, or it will not.

Decree, and (3) that “the Court’s jurisdiction has been invoked on diversity grounds.” Given Plaintiffs’ repeated stipulations – none of which Plaintiffs so much as mention in their briefing – it is simply not debatable that Plaintiffs’ invocation of the Consent Decree has no place in the court’s consideration of the Emergency Motion. Although Plaintiffs may not have been aware of the Johnson Act jurisdictional issue at the time they made those stipulations, that does not serve as a proper basis for allowing them to ignore (or escape) these stipulations.²⁴

²⁴The stipulation entered into by the parties undercuts Plaintiffs’ arguments, but that is not the only basis for concluding that this is a diversity case and nothing more. Simply stated, Plaintiffs lack standing to enforce the Consent Decree. (See Doc. #11 at 26-28; Doc. #31 at 20). First, in a previously filed brief, Plaintiffs declined “to debate their standing to enforce the Consent Decree.” (Doc. #34 at 19-20 n. 30). In their March 2009 brief – and in their post-hearing papers – Plaintiffs were conspicuously silent with respect to standing. (See Doc. #74 at 18-21) (discussing federal law but ignoring the Consent Decree); (Doc. #86 at 13-15) (discussing “jurisdiction” but never mentioning standing). And with good reason. Try as it might, the court has discerned *no* theory under which Plaintiffs in this case have the requisite stake in the quality of Jefferson County’s water supply to sue on the Consent Decree – let alone seek an emergency receiver based on it. See, e.g., *Summers v. Earth Island Institute*, 129 S.Ct. 1142, 1149 (2009) (plaintiff must demonstrate sufficient stake “to warrant his invocation of federal-court jurisdiction” (quoting *Warth v. Seldin*, 422 U.S. 490, 498-99 (1975)) (emphasis added in *Summers*).

Second, not only can Plaintiffs claim no stake in Jefferson County’s water quality, but they have not – and cannot – allege that the County has violated the Consent Decree. By contrast, Plaintiffs concede (as they must) that “[a]t this point, the County is in compliance.” (Tr. of March 26 Hearing at 23). Unfazed by these key concessions, Plaintiffs nevertheless argue that the County’s actions “*threaten the prospect* that the County can continue to abide by the Consent Decree” and that “the County’s defaults under the Indenture, unless cured, *may well* make current and future compliance impossible.” (Doc. #79 at 8, 9; Doc. #86 at 14-25) (emphasis added). This type of speculation does not show the sort of imminence required under Article III. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992); *Elend v. Basham*, 471 F.3d 1199, 1205 (11th Cir. 2006). Plaintiffs cannot ask for emergency relief on the basis of an agreement to which they are *not* parties and of which the County is *not* in violation. In addition, the Consent Decree cannot – and does not – provide the basis for the relief that Plaintiffs request – namely, the appointment of an emergency receiver to protect their alleged interests under the Indenture.

b. The Order at Issue Does Not Interfere with Interstate Commerce

Plaintiffs' argument that the order at issue, the 1997 Rate Order and Resolution, interferes with interstate commerce is misplaced and betrays a fundamental misunderstanding of the Johnson Act's "interstate commerce" condition. As the County correctly observes, Plaintiffs' contention is that the condition fails so long as there exists some "effect" on interstate commerce in the *Wickard v. Filburn*, 317 U.S. 111 (1942) sense – *i.e.*, so long as Congress could plausibly regulate under its Commerce Clause power. But the Johnson Act's interstate commerce condition cannot be construed so broadly, and that argument is in error. The Act's interstate commerce condition is concerned not with interstate "effects" in the *Wickard* sense, but rather with interstate discrimination and burdens in the *dormant* Commerce Clause sense. Indeed, on Plaintiffs' reading, it is difficult to imagine a utility rate order to which the Johnson Act would *ever* apply. Every rate order will presumably always have some "effect" on interstate commerce. Plaintiffs' loose construction of the interstate commerce condition, therefore, would take an Act that was fundamentally intended to get federal courts out of the local rate-making business and reconceptualize it so as to put them right back in the middle of it. "Generally, state agency orders setting intrastate [utility] rates do not interfere with interstate commerce." *US West, Inc. v. Nelson*, 146 F.3d 718, 724-25 (9th Cir. 1998) (citing *Kalinsky v. Long Island Lighting Co.*, 484 F.Supp. 176, 178 (E.D.N.Y. 1980) and *Zucker v. Bell Tel. Co.*, 373 F.Supp. 748, 751 (E.D. Pa. 1974), *aff'd*, 510 F.2d 971 (3rd Cir. 1975)). The Rate Order and Resolution itself merely purports to set rates charged to Jefferson County Sewer System customers - customers on a sewer system contained exclusively within Alabama.

Certainly all state rate-making action does have some influence upon or effect upon interstate commerce but these actions do not necessarily interfere with interstate

commerce and the magnitude of the harm threatened by inadequate intrastate rates does not provide a cause for ignoring the clear mandate of the Johnson Act.

US West, Inc., 146 F.3d at 724 (quoting *Louisiana Power & Light Co. v. Ackel*, 616 F.Supp. 445, 448 (D. La.1985) (citing *Kansas-Nebraska Natural Gas Co. v. City of St. Edward*, 234 F.2d 436 (8th Cir.1956) (holding that incidental and indirect effects on interstate commerce do not rise to the level of “interference” for purposes of the Johnson Act))).

What interferes with interstate commerce as it relates to this case is not the order at issue,²⁵ but rather the County’s failure to pay its debt obligations under the various indentures into which it entered. It is that failure to pay, rather than the Rate Order and Resolution (which was designed to set the sewer rates for Jefferson County), which affects interstate commerce and Warrant holders outside of the state. The controlling question here is whether the “order” itself (as opposed to this litigation) “interferes with” (as opposed to merely “affects”) interstate commerce. The answer is clear – it does not.²⁶ See *Kalinsky v. Long Island Lighting Co.*, 484 F.Supp 176, 178 (E.D.N.Y.

²⁵The arguments presented by Plaintiffs on this issue do not even address whether the relevant “order” – here, the Rate Order and Resolution – *itself* interferes with interstate commerce. Instead, Plaintiffs focus exclusively on the arguably interstate aspects of the current litigation. Plaintiffs point out that the Insurers and underwriters are “located outside of Alabama,” and the Warrant holders “represent people and entities from around the country and world.” (Doc. #86 at 15). Plaintiffs likewise stress that “this case” has “received national press coverage.” (*Id.*). However, Plaintiffs never make any effort to tie their argument back to the Johnson Act’s text – because they cannot. Under the Act, what matters is whether the “order” – not some larger piece of litigation, but the *order itself* – interferes with interstate commerce. Plaintiffs have not even addressed that question, let alone provided a convincing answer to it.

²⁶As some of the leading commentators point out, the interstate-commerce condition serves the limited purpose of carving out dormant Commerce Clause challenges from the Act’s broad prohibitive scope. See R. FALLON, ET AL., HART & WECHSLER’S THE FEDERAL COURTS & THE FEDERAL SYSTEM 1172 (5th ed. 2003); accord 17 A. WRIGHT, A. MILLER, ET AL., FEDERAL PRACTICE & PROCEDURE § 4236, at 234 (2d ed. 1997) (noting that interstate-commerce condition is “of doubtful meaning and limited importance”). A local utility’s rate order “interfere[s] with” interstate commerce only where: (1) the order purports to regulate in a field preempted by Congress,

1980); *South Cent. Bell Tel. Co. v. Pub. Serv. Comm'n of Kentucky*, 420 F.Supp. 376, 377-78 (W.D. Ky. 1976). Therefore, the order at issue does not interfere with interstate commerce.

c. The Order Was Made after Reasonable Notice and Hearing

The question of whether the Rate Order and Resolution was made after reasonable notice and a hearing requires little discussion here. The Jefferson County Commission's customary practice is to give notice when it intends to modify rates and holds public hearings before it acts. The 1997 Rate Order and Resolution was adopted by the Jefferson County Commission in a public hearing. Therefore, this condition has been met.

d. A Plain, Speedy and Efficient Remedy May Be Had in the Courts of Such State

"Finally, assuming the first three conditions to be present, the Act prohibits federal jurisdiction when there is a remedy available in the state courts." *DeKalb County*, 358 F.Supp. at 504. "[T]he legislative history of the Johnson Act, ... , makes clear congressional intent that a state remedy is 'plain, speedy and efficient' even though [one] must proceed first through administrative and then judicial proceedings" *California v. Grace Brethren Church*, 457 U.S. 393, 417 n.35 (1982) (citing S. Rep. No.125, 73d Cong., 1st Sess., 2-3 (1933)).

To be "plain, speedy and efficient," the state remedy need only satisfy minimal procedural requirements. Succinctly put, the state remedy is "plain" as long as the remedy is not uncertain or unclear from the outset; "speedy" if it does not entail a significantly greater delay than a corresponding federal procedure; and "efficient" if the pursuit of it does not generate ineffectual activity or unnecessary expenditures of time or energy.

see Pub Util. Comm'n of Ohio v. United Fuel Gas Co., 317 U.S. 456 (1943); or (2) the order applies to a commodity that has itself been shipped in interstate commerce and does so in a way that would discriminate against or burden the interstate shipment of that commodity. *See Nucor Corp. v. Nebraska Power Dist.*, 891 F.2d 1343 (8th Cir. 1989).

US West, Inc., 146 F.3d at 724-25 (citing *Brooks v. Sulphur Springs Valley Elec. Co-op.*, 951 F.2d 1050, 1054 (9th Cir.1991) (citing *Rosewell v. LaSalle Nat'l Bank*, 450 U.S. 503, 517-21 (1981))).

Plaintiffs cannot assert that they lack an adequate remedy in state court. Without question, they could have filed a lawsuit in state court requesting the same relief they have requested here – contract damages and, more importantly for present purposes, a receiver. *See* Ala. Code § 6-6-620 *et seq.* Thus, Plaintiffs state-court remedy is materially identical to their federal-court remedy.

And, in fact, Plaintiffs do not complain about the adequacy of their remedy *per se*. They tacitly concede (as they must) that a breach of contract action is “plain” and that litigating novel questions of Alabama law in Alabama courts would be “efficient.” Rather, Plaintiffs’ argument rests entirely on their *assumption* that the state court in which they would file would be insufficiently “speedy.” That argument fails for several reasons.

First, Plaintiffs complain about what they perceive will be a lack of dispatch with which the Jefferson County Circuit Court would act on their claims. Even assuming the accuracy of all of Plaintiffs’ assumptions about how state-court proceedings might unfold, Plaintiffs have not shown a lack of “speed[.]” in the Johnson Act sense. As the Supreme Court has held in a Tax Injunction Act²⁷ case, a delay of even years, while “regrettable,” does not render a state court insufficiently “speedy.” *Rosewell v. LaSalle Nat'l Bank*, 450 U.S. 503, 518-20 (1981). Plaintiffs’ failure even to address – much less attempt to distinguish – *Rosewell* is telling. Plaintiffs are complaining about the prospect of a six-month delay; however, the Supreme Court did not find a delay four times that long to lack a sufficient speed.

²⁷The Tax Injunction Act, 28 U.S.C. § 1341, and the Johnson Act are companion provisions, and cases interpreting one are often cited as authority with respect to the other. *See, e.g., California v. Grace Brethren Church*, 457 U.S. 393, 410 n.22 (1982).

Second, as the County observes, although Plaintiffs purport to be concerned about the speed with which a state court might act, the question remains: Relative to what? If this court were to grant Plaintiffs' emergency motion, the County would have an immediate appeal as of right to the Eleventh Circuit. *See* 28 U.S.C. § 1292(a)(2). That appeal, realistically, would take months. Of course, the losing party in the Eleventh Circuit would presumably petition the United States Supreme Court for certiorari; that process would likely add more time to the litigation (and a good bit more if the petition were granted). Should either the Eleventh Circuit or the Supreme Court agree with the County, on either Johnson Act or abstention grounds, Plaintiffs will end up right back where they should be now – in state court.²⁸ Further, even if Plaintiffs were to prevail on appeal, once the case returned to this court, it would *still* be in its infancy.²⁹

²⁸Whether a state court remedy is plain, speedy and efficient is determined *not* at the time of dismissal, but at the time when Plaintiffs initially selected their forum. *Henry v. Metro. Dade County*, 329 F.2d 780, 781 (5th Cir. 1964); *Klotz v. Consol. Edison Co. of New York*, 386 F.Supp. 577, 586-87 (S.D.N.Y. 1974) (stating, *inter alia*, that “[t]he availability of a direct action for a declaratory judgment in the state courts is sufficient to satisfy the requirement for a plain, speedy and efficient state remedy...”); *Preston County Light & Power Co. v. Pub. Serv. Comm’n*, 297 F.Supp 759, 766 (D. W.VA. 1969).

²⁹To be sure, for all the activity on Plaintiffs' emergency motion, this case has barely progressed past the pleadings. There has been no parties' planning meeting, no scheduling order, only limited discovery, no dispositive motion schedule, and no trial date set. That is not the fault of the parties, but it is a reality. Moreover, Plaintiffs have argued that there has already been delay in their remedy because (1) this case has been allowed to proceed in this court, and (2) Defendants did not raise the Johnson Act issue at an earlier stage in the litigation. There are a number of responses to these concerns. First, Plaintiffs chose to file this suit in federal court. While the Johnson Act defense was recently raised, the Johnson Act was not recently enacted. (Indeed, it has been codified for over seventy years.) Had Plaintiffs chosen to pursue a receiver in a state forum, they would not have had to confront this jurisdictional hurdle. Second, the parties' litigation efforts need not be duplicated in state court. The parties are free to use the discovery and transcripts developed in this case in state court. Third, many of the delays in this case have been caused by the court and parties' desire and efforts to seek a global resolution of this matter. The court makes no apologies for that and certainly does not think that time was wasted, even if the efforts to date have been unsuccessful. Finally, “[t]he fact of the matter is that legal conflicts are not resolved as quickly

Finally, the heart of Plaintiffs' "speed" arguments is ultimately premised on a series of suppositions. Based entirely on the case of *Wilson v. J.P. Morgan Chase, et al.*, CV-08-901907, currently pending in Jefferson County Circuit court, (see Doc. #79 at 9-11), Plaintiffs assert that a suit in state court would be plagued by a "virtually certain" mass-recusal of the entire Jefferson County bench. Even assuming such a mass recusal, Amendment 328 to the Alabama Constitution provides a process by which the Chief Justice selects alternate judges. The Amendment's existence (combined with the presumption of regularity) is evidence that a mass recusal would not cause undue delay. Thus, there is already a plain, speedy, and efficient state-law remedy in place to address even Plaintiffs' worst-case scenario. Moreover, there are literally hundreds of state court judges to whom Chief Justice Cobb could assign this case. This case is also distinguishable from *Wilson* in this respect – *Wilson* is a putative class action, which presumptively gives every potential class member a direct pecuniary interest in the outcome and requires judges to be especially sensitive to issues that could lead to recusal or disqualification. As a non-class action, this case does not appear to present that same recusal conundrum.

e. Plaintiffs Cannot Point to a Single Case Where a Receiver With the Power to Affect Utility Rates was Appointed by a Federal Court

To be sure, the court has given Plaintiffs a substantial period of time to research the issue of whether a federal court has ever appointed a receiver with the power to adjust utility rates. At the March 26, 2009 hearing, the following colloquy occurred:

as we would like." *Rosewell v. LaSalle Nat. Bank*, 450 U.S. 503, 519 (1981) (holding that a 2-year delay does not justify the conclusion that the remedy is not speedy). Plaintiffs have sought extraordinary relief in this complex case. They cannot reasonably expect to have a receiver appointed over the sewer operations of the largest County in the State without full scale litigation and some level of judicial scrutiny.

Plaintiffs' Counsel: "Your Honor, there are dozens of cases in which a federal court has appointed a receiver. And the fact that the receiver takes over the county's --"

The Court: "Any cases you know where a federal court appointed a receiver to affect rates and that was upheld by a court of appeals?"

Plaintiffs' Counsel: "Your Honor, I don't have a direct answer to that, but we would love to look."

The Court: "I'm going to give you that chance."

Plaintiffs' Counsel: "Yes, sir."

The Court: "And I'm not going to make you do it by the end of the hearing. I'm going to give you some more time than that."

(Tr. of March 26 Hearing at 20-21). After that exchange, the only case Plaintiffs have pointed to is *Warrenville State Bank v. Farmington Township*, 185 F.2d 260 (6th Cir. 1950). As Plaintiffs concede, however, neither the District Court nor the Sixth Circuit *mentioned* the Johnson Act. Indeed, the District Court and Sixth Circuit opinions are both silent with respect to the Act's application. Accordingly, the case is of negligible value; at most, Plaintiffs can speculate on how the courts *might* have ruled if the Johnson Act *had* been considered.

As matters stand now, having accepted the court's invitation, Plaintiffs have been unable to locate a single case in which a federal court appointed a ratemaking receiver in the face of a Johnson Act objection and was affirmed on appeal. Apparently, therefore, Plaintiffs' own research is consistent with the court's analysis: if this court were to appoint a ratemaking receiver over Jefferson County, that would not only be inconsistent with the Act, it would be a first.

"The obligation of [this] federal court is clear from a reading of the Johnson Act. The existence of a remedy in the State court effectively ousts the federal court of jurisdiction, and the

initial suit filed by appellant was properly dismissed.” *Henry v. Metropolitan Dade County*, 329 F.2d 780, 781 (5th Cir. 1964) (affirming dismissal even where the time in which the state suit might have been brought had expired). “[T]he legislative history of the Johnson Act supports a broad interpretation of its jurisdiction-limiting effect.” *Beechwood Dev’p., LLC v. Olympus Terrace Sewer Dist.*, 2005 WL 2573331, *2 (W.D. Wash. 2005) (citing *Brooks v. Sulphur Springs Valley Elec. Coop.*, 951 F.2d 1050, 1054 (9th Cir.1991)). Because the court finds that all of the conditions for the application of the Johnson Act have been met, the Johnson Act deprives this of jurisdiction to appoint a receiver with rate-making authority.

C. The Proper Course Is For This Court To Abstain From Deciding Whether to Appoint A Receiver Who Does Not Have Ratemaking Authority

From the very beginning of this litigation, Plaintiffs have pursued the appointment of a receiver with rate-making authority – principally because they want someone to increase sewer revenues (including raising sewer rates) and the County Commissioners are unwilling to do that. Indeed, at the February hearing, before the County had raised its Johnson Act challenge, counsel for the Trustee stated unequivocally that “receivership is *meaningless* until the receiver is *empowered to raise revenue* and cut expenses.” (Tr. of Feb. 25, 2009 Hearing at 11 (emphasis added); *see also* Doc. #1 at ¶¶ 57, 59, 62, 64, 69, 74, 82, Prayer for Relief at ¶¶ iii, and iv; Doc. #8 at ¶ 9). And to be clear, even now Plaintiffs clearly desire the appointment of a receiver who would have the power to adjust rates. However, in light of the County’s arguments regarding the Johnson Act, Plaintiffs have argued alternatively that, if the court determines that it lacks jurisdiction to appoint such a receiver, the court should appoint a receiver without rate-making authority. Defendants argue that the court should abstain from making such an appointment because rendering a decision would

require the court to decide unsettled issues of Alabama law, something better left to courts of the State of Alabama³⁰ under traditional notions of federalism and comity.

Principles of abstention evolve from concepts of federalism, and issues of federalism involve some of the most important decisions by federal courts and significant debates in American politics – the boundaries between state and federal power. Indeed, Justice O’Connor has referred to the Supreme Court’s responsibility to define the boundaries of federalism – that is, discerning the proper division of authority the Federal Government and the States – as the nation’s “oldest question of constitutional law.” *New York v. United States*, 505 U.S. 144, 149 (1992). “Federal courts abstain out of deference to the paramount interests of another sovereign, and the concern is with principles of comity and federalism.” *Quackenbush v. Allstate Ins. Co.*, 517 U.S. 706, 722 (1996) (citing *Burford*, 319 U.S. at 332-333 and *Younger v. Harris*, 401 U.S. 37, 44-45 (1971)).³¹ When they abstain,

federal courts, “exercising a wise discretion”, restrain their authority because of “scrupulous regard for the rightful independence of the state governments” and for the smooth working of the federal judiciary This use of equitable powers is a contribution of the courts in furthering the harmonious relation between state and

³⁰While Plaintiffs predictably contend the court should not abstain, in addressing that issue, the vast majority of cases they cite for the proposition that this court can award them the substantive relief they seek (*i.e.*, a receiver over the Sewer System) were decided by Alabama *state courts*.

³¹The doctrine of abstention is driven by:

the notion of “comity,” that is, a proper respect for state functions, a recognition of the fact that the entire country is made up of a Union of separate state governments, and a continuance of the belief that the National Government will fare best if the States and their institutions are left free to perform their separate functions in their separate ways.

Huffman v. Pursue, Ltd., 420 U.S. 592, 601 (1975) (quoting *Younger v. Harris*, 401 U.S. 37, 44 (1971)).

federal authority without the need of rigorous congressional restriction of those powers.’

Burford, 319 U.S. at 332-333 (quoting *Railroad Commission v. Pullman Co.*, 312 U.S. 500, 501 (1941)). Under these principles, a court’s “discretion to decline to exercise its jurisdiction [also] may be applied when judicial restraint seems required by considerations of general welfare.” *Burford v. Sun Oil Co.*, 319 U.S. 315, 333, n.29 (1943) (quoting *Virginian Ry. Co. v. System Federation*, 300 U.S. 515, 552 (1937)).³²

The Supreme Court has recognized a number of interrelated “abstention” doctrines, but they all serve essentially the same purpose – namely, in appropriate circumstances, to defer a decision in federal court in favor of proceedings in a state forum. Each of these abstention doctrines is firmly rooted in principles of federalism. “Where parties have come into federal court for a determination of rights, the federal court should not only stay its hand but should dismiss the action, where there is available in the state courts *a complete and adequate remedy* for the determination of the same questions presented in the federal action.” *Tennyson v. Gas Serv. Co.*, 506 F.2d 1135, 1143 (10th Cir. 1974) (emphasis added) (citing *Alabama Public Service Commission v. Southern Ry.*, 34 U.S. 341 (1951)). Of particular import to this court’s abstention analysis is the fact that, based upon the court’s conclusion that the Johnson Act does not permit appointment of a rate-making receiver, a “complete and adequate remedy” is not available to Plaintiffs in *this* court.³³

³²To be clear, as discussed *infra*, the court’s abstention analysis is based on *Louisiana Power & Light Co. v. City of Thibodaux*, 360 U.S. 25 (1959). However, *Burford* abstention is certainly related to - and in some ways - an extension of *Thibodaux*; therefore, the court’s citation to *Burford* is appropriate.

³³While it is indeed an important factor in the court’s abstention analysis that the Johnson Act precludes the appointment of a receiver with rate-making authority, the court emphasizes the following point. Even if the court were to determine that the Johnson Act did not divest it of

Defendants argue that the court should abstain under three separate abstention doctrines: *Thibodaux* abstention, *see Louisiana Power & Light Co. v. City of Thibodaux*, 360 U.S. 25 (1959); *Burford* abstention, *see Burford v. Sun Oil Co.*, 319 U.S. 315 (1943); and *Williams* abstention, *see Pennsylvania v. Williams*, 294 U.S. 176 (1935). However, Defendants' primary argument is that the *Thibodaux* abstention doctrine requires that this court abstain because any decision regarding (1) whether a receiver should be appointed or (2) the scope of such a receiver's duties would implicate unsettled questions of state law.

The policy reasons which undergird federal court abstention are not new. "It is in the public interest that federal courts of equity should exercise their discretionary power with proper regard for the rightful independence of state governments in carrying out their domestic policy." *Williams*, 294 U.S. at 185. Exercising jurisdiction over Plaintiffs' claims seeking the appointment of a receiver requires the court to consider the issuance of injunctive relief which would necessarily affect the exercise of authority currently vested in the elected officials of the Jefferson County Commission. Plaintiffs have asked this court to place certain authority—management and control of the operations

jurisdiction, "it by no means follows from [that] fact ... that such jurisdiction must be exercised in [this] case" as it relates to the appointment of a rate-making receiver. *Alabama Pub. Serv. Comm'n v. Southern Ry. Co.*, 341 U.S. 341, 345 (1951). "Frequently one of the abstention doctrines or other considerations of comity will indicate the desirability of leaving the plaintiff to his remedies in the state system even where the Johnson Act does not apply." 17A WRIGHT & MILLER, *supra*, § 4236, at 241. A number of cases fit that pattern precisely. *See, e.g., Southern Ry. Co.*, 341 U.S. at 350 (assuming Johnson Act inapplicable but abstaining in deference to state administrative process); *New Orleans Pub. Serv., Inc. v. City of New Orleans*, 782 F.2d 1236, 1242 (5th Cir.), *amended in part*, 798 F.2d 858, 860-64 (5th Cir. 1986) (holding Johnson Act inapplicable but abstaining); *ALCOA v. Utils. Comm'n of the State of N.C.*, 713 F.2d 1024, 1027, 1030 (4th Cir. 1983) (same). Even if the court had not concluded that the Act bars appointment of a rate-making receiver, it would have in all likelihood abstained on that issue as a matter of comity. *City of Monroe v. United Gas Corp.*, 253 F.2d 377, 381 (5th Cir. 1958); *Tennyson v. Gas Serv. Co.*, 506 F.2d 1135, 1143 (10th Cir. 1074).

of the Sewer System which is currently in the hands of the County Commission – into the hands of a receiver.

Not all cases in which the issue of abstention is raised fit neatly into an existing abstention doctrine. See *Colorado River*, 424 U.S. at 816 (citing *Williams, supra*). In evaluating the abstention issue before it in *Colorado River*, the Supreme Court noted that the facts of that case did not fit neatly into any of the traditional abstention doctrines. In those circumstances, it stated “there are principles unrelated to considerations of proper constitutional adjudication and regard for federal-state relations” which are appropriate to consider, such as “considerations of ‘wise judicial administration, giving regard to conservation of judicial resources and comprehensive disposition of litigation.’” *Colorado River*, 424 U.S. at 816 (quoting *Kerotest Mfg. Co. V. C-O-Two Fire Equipment Co.*, 342 U.S. 180, 183 (1952)).

Before it discusses the specifics of its analysis of whether it should abstain with respect to appointment of a receiver, it is appropriate that the court be clear about a few matters. First, it understands fully that “abstention ... is the exception, not the rule.” *Colorado River*, 424 U.S. at 813. That having been said, “[a]bstention doctrines are a significant contribution of the theory of federalism and to the preservation of the federal system in practice. They allow federal courts to give appropriate and necessary recognition to the role and authority of the States.” *Quackenbush*, 517 U.S. at 733 (Kennedy, J., concurring). Accordingly, “[t]he duty to take these considerations into account *must* inform the exercise of federal jurisdiction.” *Id.* (emphasis added). One key issue here involves “a careful consideration of the federal interests in retaining jurisdiction over the dispute and the competing concern for the ‘independence of state action,’” and an inquiry that focuses on whether “the State’s interests are paramount [such] that a dispute would best be adjudicated in a state

forum.” *Id.* at 728 (majority opinion) (citation and internal quotations omitted). “This equitable decision balances the strong federal interest in having certain classes of cases, and certain federal rights, adjudicated in federal court, against the State’s interests in maintaining uniformity in the treatment of an essentially local problem, and retaining local control over difficult questions of state law bearing on policy problems of substantial public import.” *Id.* (citations and internal quotations omitted). With these principles in mind, the court will consider carefully whether it should abstain on the receiver issue. For the reasons explained below, it finds that this is not that close a case. In this diversity case, there is minimal federal interest³⁴ and the State of Alabama has a very strong interest in having complex questions of its state law decided by its courts – courts that are best equipped to decide them.

1. *The Thibodaux Abstention Doctrine Counsels In Favor of Abstention*

The court now turns to the question of *Thibodaux* abstention. In *Thibodaux*, the Supreme Court instructed that federal district courts should abstain from adjudicating matters before them where: (1) jurisdiction is predicated solely on diversity; (2) the case involves an unsettled question of state law; and (3) the subject matter of the unsettled question implicates important state interests. *Thibodaux*, 360 U.S. at 28-30. Stated a little differently, “[a]bstention is ... appropriate where there have been presented difficult questions of state law bearing on policy problems of substantial public

³⁴Plaintiffs may assert that a decision on Plaintiffs’ Emergency Motion for the Appointment of a Receiver implicates important federal interests in that a failure to address Defendants’ defaults under the Indentures (and enforce the contractually agreed-upon remedies) would have a negative effect on the entire national municipal bond industry. But such an argument would cut no ice at all. No *evidence* has been presented to the court suggesting that a failure to appoint a non-rate making receiver would have any effect on a federal interest. At most, based upon the information before the court, it may well be that decision in this case could have an effect on municipal bond market within the State of Alabama itself. However, even that conclusion is speculative based upon the lack of evidence now before the court.

import whose importance transcends the result in the case at bar.” *Colorado River Water Conservation Dist. v. United States*, 424 U.S. 800, 814 (1976). Obviously, the first question the court must address is whether *Thibodaux* applies here. To be sure, Plaintiffs contend it does not. Their arguments on this issue are off the mark.

In *Thibodaux*, the Supreme Court upheld a district court’s *sua sponte* decision to abstain from deciding a plaintiff’s challenge to the City of Thibodaux’s exercise of its eminent-domain power. *Id.* at 25-28. The district court determined that a pertinent state statute appeared in conflict with a Louisiana Attorney General’s opinion and stayed the case pending the result of a declaratory judgment suit in Louisiana state courts (which at the time had not yet been filed).³⁵ *Id.* at 30. Reversing the Fifth Circuit, the Supreme Court held that “[t]he District Court was ... exercising a fair and well-considered judicial discretion in staying proceedings pending the institution of a declaratory judgment action and subsequent decision by the Supreme Court of Louisiana.” *Id.* at 30. The Court emphasized that abstention “does not constitute abnegation of judicial duty,” but rather is “a wise and productive discharge of it.” *Id.* at 29.

The Supreme Court “has continued to cite *Thibodaux* approvingly.” R. FALLON, ET AL., HART & WECHSLER’S THE FEDERAL COURTS & THE FEDERAL SYSTEM, at 1211 (5th ed. 2003) (citing *Colorado River Water Conservation Dist. v. United States*, 424 U.S. 800 (1976), and *New Orleans Pub. Serv., Inc. v. New Orleans*, 491 U.S. 350 (1989)). So have lower federal courts. Writing for the *en banc* Fourth Circuit, for instance, Judge Widener described *Thibodaux* abstention this way: “[T]he *Thibodaux* abstention doctrine ... is applied when there is no federal claim and there is a

³⁵When it issued its opinion, the Supreme Court assumed that the parties would initiate the state-court suit after remand. *Thibodaux*, 360 U.S. 30-31.

significant and difficult question of state law that concerns matters which are particularly within the province of the state-sovereign to regulate or decide.” *Pamponio v. Fauquier County Bd. of Supervisors*, 21 F.3d 1319, 1325 (4th Cir. 1994) (*en banc*), *overruled on other grounds by Quackenbush*, 517 U.S. 706.

Like other abstention doctrines, *Thibodaux* abstention is founded on principles of federalism. It is grounded in a healthy “regard for the respective competence of the state and federal court systems and for the maintenance of harmonious federal-state relations in a matter close to the political interests of a State.” *Thibodaux*, 360 U.S. at 25. The *Thibodaux* Court found that eminent domain was “intimately involved with sovereign prerogative” of the city. *Id.* at 28.

Plaintiffs attempt to distinguish *Thibodaux* on three grounds. (Doc. #86 at 21). Each of those arguments misfire.

First, Plaintiffs emphasize the fact that *Thibodaux* itself involved “an uninterpreted state law with a directly conflicting Attorney General opinion.” (*Id.*). Indeed that was an important aspect of that case, but the court is not aware of any decision or commentary that purports to limit *Thibodaux* or its rationale to those precise facts. Further, the conflict between the statute and the attorney general opinion was merely indicative of the “quandary” in which the *Thibodaux* district court found itself concerning the meaning of Louisiana law. *Louisiana Power & Light Co. v. City of Thibodaux*, 360 U.S. 25, 30 (1959).

Second, and according to them “more importantly,” Plaintiffs assert that *Thibodaux*’s rationale applies *only* to cases involving eminent domain, which Plaintiffs call a “distinct purview of the state.” (Doc. #86 at 21). That assertion is plainly in error. It cannot be argued that eminent

domain is more the “distinct purview of the state” than is the assignment and distribution (per the State’s founding charter) of regulatory responsibility between state and local governments.³⁶

Finally, Plaintiffs cite *Meredith v. Winter Haven*, 320 U.S. 228 (1943), and *McNeese v. Board of Education*, 373 U.S. 668 (1963), for the proposition that uncertainty in state law is not alone sufficient to justify *Thibodaux* abstention. But that argument is wide of the target also because it only gets Plaintiffs halfway home. *Thibodaux* itself acknowledged both *Meredith* and the uncontested proposition that Plaintiffs assert here – that uncertainty in state law alone is insufficient to trigger the application of *Thibodaux*. See *Thibodaux*, 360 U.S. at 24-25 & n.2. But *Meredith* and *McNeese* can be distinguished from *Thibodaux* – and this case – because the former cases did not involve uncertainty in an area that implicates important state interests. In *Thibodaux* and here, the

³⁶Moreover, the Supreme Court’s own cases make clear that eminent domain is *not* the controlling criterion in applying *Thibodaux* abstention. For example, in *County of Allegheny v. Frank Mashuda Co.*, 360 U.S. 185 (1959), a case decided the same day as *Thibodaux*, the Court declined to require abstention in an eminent-domain case. Justice Stewart, one of only two Justices in the majority in both *Thibodaux* and *Mashuda*, explained the distinction:

In *Mashuda* the Court holds that it was error for the District Court to dismiss the complaint. The court further holds in that case that, since the controlling state law is clear and only factual issues need be resolved, there is no occasion in the interest of justice to refrain from prompt adjudication.

Thibodaux, 360 U.S. at 31 (Stewart, J., concurring). In a later decision, the Supreme Court specifically reaffirmed both of the distinctions drawn by Justice Stewart, citing his *Thibodaux* concurrence for support. See *Quackenbush*, 517 U.S. at 717 (observing that *Thibodaux* applies in “cases raising issues intimately involved with the States’ sovereign prerogative, the proper adjudication of which might be impaired by unsettled question of state law”); *id.* at 721 (“Unlike in *Thibodaux*, however, the District Court in [*Mashuda*] had not merely stayed adjudication of the federal action pending the resolution of an issue in state court, but rather had dismissed the federal action altogether. Based in large measure on this distinction, we reversed.”) (punctuation, quotations, and citations omitted).

uncertainty related to important questions involving “the apportionment of governmental powers between City and State.” *Id.* at 28. Just as *Thibodaux* involved the important state interest of the exercise of eminent domain, this case also clearly implicates important matters that are particularly within the province of the state-sovereign to regulate – namely, questions of Alabama law (including Alabama constitutional law) that address how Jefferson County’s vested authority over its Sewer System relates to the sovereign prerogatives of the State.

Plaintiffs cannot dismiss *Thibodaux* either by pointing to factual distinctions that make no difference or by attempting to “creatively” limit its scope. Subsequent Supreme Court precedent makes clear that *Thibodaux* applies “where there have been presented difficult questions of state law bearing on policy problems of substantial public import whose importance transcends the result of the case then at bar.” *Colorado River*, 424 U.S. at 814.

As discussed above, jurisdiction in this matter is based solely on diversity so the real question becomes this – are there a number of *unsettled* questions of state law, which implicate important state interests that this court would be required to decide if it were not to abstain. The court finds that there are. By way of example only, and without limitation, if the court were to assume jurisdiction, it would be called upon to answer the following important questions that involve the State of Alabama’s sovereign prerogative:³⁷

1. Can anyone other than Jefferson County’s governing body set the County’s sewer rates consistent with Amendment 73 to the Alabama Constitution?
2. Can the County’s seemingly exclusive ratemaking authority be contracted away?

³⁷Some of these questions also implicate the Johnson Act’s prohibition against a federal court (and in this case a federally appointed receiver) directly or indirectly affecting utility rates.

3. Could a federally appointed receiver determine what rate is “reasonable” by reference to existing Alabama law?
4. Could a federally appointed receiver seek a determination of what are reasonable rates?
5. Could a federally appointed receiver negotiate with others on behalf of the County regarding a solution to the current financial crisis?
6. Could a federally appointed receiver lobby (on behalf of the County) the Alabama Legislature to pass legislation which would provide additional sewer revenue (*e.g.*, a sales tax that benefits the sewer system)?
7. What limits, if any, would a federally appointed receiver have in “manag[ing], operat[ing], control[ing], and administer[ing]” Jefferson County’s sewer system? *See* Amendment 73 to the Alabama Constitution.
8. Does Alabama Code Section 6-5-20 require Plaintiffs to have presented their claims in equity for an appointment of a receiver to the County Commission prior to the filing of this suit?

A lengthy discussion about each of these questions is unnecessary. However, by way of example, the court will address the last two questions in reverse order.

Alabama Code section 6-5-20 requires that “[a]n action must not be commenced against a county until the claim has been presented to the county commission, disallowed, or reduced by the commission and the reduction refused by the claimant.” *Ala. Code* § 6-5-20. Plaintiffs did not present this claim to the Jefferson County Commission prior to filing suit, but argue that presentment was not required under Alabama Code Section 11-28-6. That section excuses presentment on claims based upon Warrants “in the aggregate amount of such warrants and the interest thereon, against such county and against any pledged funds pledged for the payment of the principal of and interest on such warrants, ...” *Ala. Code* § 11-28-6.

The complexity and significance of these issues, and the unsettled nature of Alabama law, is evident upon an examination of the parties' respective arguments. The County asserts that Plaintiffs have not raised the type of claims for which the statutory language excuses presentment because here they seek to enforce rights under the Trust Indenture governing the issuance of the Warrants. Specifically, they seek, *inter alia*, the appointment of a receiver and specific performance of the County's obligations under the indenture. Plaintiffs counter by arguing that the Warrants were issued pursuant to the Trust Indenture and certainly the County should have been on notice that potential plaintiffs would seek to enforce contractual remedies in the event of default.

There are no Alabama cases analyzing § 11-28-6, which Plaintiffs contend excuses their failure to present the claims in this case. There are numerous cases analyzing § 6-5-20. "The purpose of the requirement that the claim filed pursuant to § 6-5-20 be 'itemized' is ... 'to provide county governing bodies with notice of claims against the county and an opportunity to audit and investigate the claims ...'" *Helms v. Barbour County*, 914 So.2d 825, 829 (Ala. 2005) (quoting *Elmore County Commission v. Ragona*, 540 So.2d 720, 723 (Ala. 1989)). Allowing Counties the opportunity to receive notice of claims and the opportunity to investigate those claims is an important state interest. Further, the itemization provision does not merely require vague notice of a potential claim. Rather, it should be read to require inclusion of "a factual background, a description of the event or transaction giving rise to the claim, the alleged basis for the county's liability for damages resulting from the event or transaction, the nature of the damages, and the compensation demanded ...'" *Helms*, 914 So.2d at 829 (quoting *Ragona*, 540 So.2d at 723). The dearth of authority on this issue convinces the court that the Alabama state courts should be given the opportunity to address this issue before a federal court sitting in diversity. This unsettled issue

of state law regarding a fundamental prerequisite to the entire lawsuit, which affects an important state interest, renders abstention appropriate under *Thibodaux*.

Another significant and complex question of state law presented here involves Amendment 73 to the Alabama Constitution. Amendment 73 to the Alabama Constitution states:

The governing body of Jefferson county shall have full power and authority to *manage, operate, control and administer* the sewers and plants herein provided for and, to that end, may make any reasonable and nondiscriminatory rules and regulations fixing rates and charges, providing for the payment, collection and enforcement thereof, and the protection of its property.

Ala. Const. Amend. 73 (emphasis added). Plaintiffs seek the appointment of a receiver under the Indenture which provides that “[t]he Trustee shall be entitled ... with respect to an Event of Default, . . . , to the appointment of a receiver to *administer and operate* the System,” Indenture Section 13.2(c). Thus, in the Indenture, the County promised that, in the event of a default, Plaintiffs would be entitled to powers granted to the County under an Amendment to the Alabama Constitution. There are no state law cases analyzing or interpreting this provision of Amendment 73.

Plaintiffs argue that the vesting of the “full power and authority to manage, operate, control and administer the sewers” would include the authority to delegate that duty under contract and cite *City of Bessemer v. Bessemer Waterworks*, 152 Ala. 391, 44 So. 663 (Ala. 1907) for that proposition. Contrary to Plaintiffs’ assertion, *City of Bessemer v. Bessemer Waterworks* is not directly on point, and does not clearly establish the County’s “authority to delegate its power to a receiver.” In that case, the City did not delegate its duty to set rates, but rather contracted to an agreed upon maximum rate for a certain period of time. That is, rather than delegating the authority to set rates, the City of Bessemer had input into the rates to be charged for that period of time. They were just set by contract. Thus, there exists another unsettled issue of state law, this time regarding a constitutional

grant of power, which affects an important state interest. Thus, *Thibodaux* counsels in favor of abstention with respect to this aspect of the case.

Plaintiffs also cite *Jefferson County Commission v. ECO Preservation Servs., LLC*, 788 So. 2d 121 (Ala. 2000), for the proposition that Amendment 73 does not give the County Commission “the *exclusive* right to maintain a sewer system in Jefferson County.” (Doc. #74 at 17). In *ECO*, the County Commission denied a permit to ECO to build its own private sewer that passed through Jefferson County. *ECO*, 788 So. 2d at 123. The issue was simply whether anyone other than Jefferson County itself could operate a sewer within the County’s borders. *Id.* at 127. On that question, the Alabama Supreme Court held that Jefferson County’s right to operate a system was not exclusive. *Id.* The Court thus allowed private parties to operate their own sewers, but it certainly did not hold – or even suggest – that private parties can set rates or otherwise interfere with the County Commission’s exclusive control over *Jefferson County’s public sewer*. Plaintiffs can build their own sewer, to be sure. But *ECO* says nothing about the issue before this Court: whether anyone other than the County Commission can *fix rates* for Jefferson County’s sewer consistent with Amendment 73.

After carefully reviewing the record and the relevant case law, the court concludes that this question – like the issue of presentment under Section 6-5-20 – is not only complex and unsettled under Alabama law, but also implicates important and substantial sovereign-state issues. Therefore, it is appropriate and advisable for the court to abstain from addressing it.

2. Should the Remaining Claims Be Stayed?

Although *Thibodaux* dictates that this court should abstain from deciding whether Plaintiffs are entitled to the appointment of a receiver, that does not end this case. In addition to seeking a

receiver, Plaintiffs have also sued for a breach of contract. Furthermore, Defendants have asserted counterclaims of Negligence, Breach of Contract, and Fraud and Suppression which also remain pending. Nevertheless, the court's decisions – that (1) it lacks jurisdiction to appoint a rate-making receiver and (2) should abstain from appointing a receiver without rate-making authority – raise a very practical concern. Will continuing this case foster piecemeal litigation? The Supreme Court has “held that federal courts may decline to exercise their jurisdiction, in otherwise ‘exceptional circumstances,’” where denying a federal forum would clearly serve an important countervailing interest, ... for example, “‘wise judicial administration.’” *Quackenbush*, 517 U.S. at 716 (quoting *Colorado River*, 424 U.S. at 817 (quoting *Mashuda*, 360 U.S. at 189)).

The question remains whether in abstaining, the court should dismiss or merely stay the case. The primary relief sought in this case is equitable in nature. Where the relief sought is equitable in nature, dismissal is appropriate. *Quackenbush*, 517 U.S. at 721. However, in Count VII of the Complaint, Plaintiffs seek money damages for breach of the Standby Warrant Purchase Agreement, a remedy at law. Further, in their Counterclaims, Defendants seek money damages. “[W]hile [the Supreme Court has] held that federal courts may stay actions for damages based on abstention principles, [they] have not held that those principles support the outright dismissal or remand of damages actions.” *Id.* Thus the appropriate course of action is for this court to stay this action and allow Plaintiffs the opportunity to seek review³⁸ of their claims in the Alabama state courts, which are not limited by the Johnson Act and would have the power to award them *all* of the relief they seek, if such court found it appropriate. “[A]n order merely staying the action ‘does not constitute

³⁸Given the circumstances of this case, as already indicated, if Plaintiffs desire, the court will work with the parties to examine whether an interlocutory appeal is appropriate now.

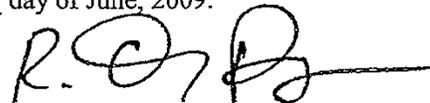
abnegation of judicial duty. On the contrary, it is a wise and productive discharge of it. There is only postponement of decision for its best fruition.” *Quackenbush*, 517 U.S. at 721 (quoting *Thibodaux*, 360 U.S. at 29). Accordingly, the court requests that the parties confer and, within fourteen (14) days, file a joint report stating whether the court should: (1) stay this case, in whole or in part, so that they can litigate the issue of appointment of a receiver in state court; (2) allow the parties to continue to litigate the remaining issues in this court; or (3) discuss with the parties some other approach.

IV. Conclusion

For the reasons outlined above, the court finds (1) that the Johnson Act deprives it of jurisdiction to appoint a receiver with ratemaking authority, (2) abstention on the issue of whether to appoint a receiver without ratemaking authority is appropriate, and (3) the court has the discretion to stay the remaining aspects of the case in order to foster “wise judicial administration” and, if the parties so desire, avoid piecemeal litigation.

Within fourteen (14) days, the parties shall file with the clerk of the court a joint report stating whether they desire that the court: (1) stay the case, so that they can seek relief in a court that could provide full relief on all claims asserted; (2) continue to litigate the remaining issues in this court; or (3) discuss with the parties some other approach. The court will enter a separate order once it receives a report from the parties.

DONE and ORDERED this 12th day of June, 2009.



R. DAVID PROCTOR
UNITED STATES DISTRICT JUDGE

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CV-2009-002318.00
CIRCUIT COURT OF
JEFFERSON COUNTY, ALABAMA
ANNE MARIE ADAMS, CLERK

IN THE CIRCUIT COURT OF JEFFERSON COUNTY, ALABAMA

THE BANK OF NEW YORK MELLON,)
as Indenture Trustee,)
)
Plaintiff,)
)
v.)
)
JEFFERSON COUNTY, ALABAMA, et al.,)
)
Defendants.)

CIVIL ACTION NUMBER:
CV-2009-02318

ORDER

This matter was submitted to the Court for adjudication of the claims of Plaintiff, The Bank of New York Mellon, as Indenture Trustee (the "Trustee"), seeking against Jefferson County, Alabama (the "County") and the County Commissioners the appointment of a receiver and other relief. The Court, in the granting of Plaintiff's "Motion for Partial Summary Judgment," has before it several complex issues. The Court is of the opinion that the parties have mutual interests and a common objective. The common objective being the meeting of Jefferson County's obligations in the instant case while preserving the County's ability to grow and prosper.

The Court is of the opinion that bankruptcy is not a feasible alternative. Jefferson County in order to progress, must have access to capital markets. It is ironic that the sewer system that is the subject of this lawsuit and so much controversy is also a reason for optimism. The sewer system as infrastructure is for the most part state of the art and has much underutilized capacity. Access to capital markets is a requirement for the successful utilization of underutilized capacity. Bankruptcy would deny Jefferson County access to capital markets. It is apparent that bankruptcy would be catastrophic for the Plaintiff.

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Capital markets abhor default and demand payment. Consequently it is important for the Plaintiff to be made whole or as nearly so as reasonably possible. In order to accomplish this, additional net revenues must be generated by the Jefferson County Sewer System. The Court is not unaware that demand for sewer services is not price inelastic. Consequently hikes in sewer usage rates must be reasonable and carefully implemented so as not to result in decreased demand for sewer services. In addition to raising rates for sewer usage, it is entirely possible that other avenues for generating additional net revenues may exist.

Accordingly and upon consideration of the entire record in this case, the record in the Federal Action,¹ and the arguments of counsel, the Court makes the following findings of fact and conclusions of law:

1. This Court has subject matter jurisdiction.
2. The Trustee has standing to bring this lawsuit.
3. The Trustee has met all preconditions to bringing this lawsuit against the Defendants. Alabama Code § 11-28-6 exempts the Trustee's claims from the requirements of Alabama Code §§ 6-5-20, 11-12-5, 11-12-6, and 11-12-8.
4. The County has defaulted on its obligations owed to the Trustee and the Parity Security Holders by Defendants' failure to make payments when due and to comply with certain obligations and covenants in the Indenture,² which defaults have put the Parity Security Holders' investments at risk.

¹ *The Bank of New York Mellon, as Indenture Trustee, et. al. v. Jefferson County, Alabama, et. al.*, Case No.: 2:08-CV-01703-RDP in the United States District Court for the Northern District of Alabama.

² The Parity Securities are governed by an Original Trust Indenture and eleven Supplemental Indentures (the Original Trust Indenture as supplemented from time to time, the "Indenture").

5. Separate Events of Default³ have occurred and are continuing under §13.1(a) of the Indenture as a result of the County's failure to make \$515,942,500 in rapidly amortizing principal redemption payments due on June 2, 2008, August 1, 2008, October 1, 2008, January 1, 2009, February 20, 2009, April 1, 2009, July 1, 2009, October 1, 2009, January 1, 2010, April 1, 2010, and July 1, 2010.

6. An Event of Default has occurred and is continuing under §13.1(b) of the Indenture as a result of the County's failure to comply with the Rate Covenant set forth in §12.5(b) of the Indenture. The exceptions set forth in §12.5(b) have not been met by the County.

7. Separate Events of Default have occurred and are continuing under §13.1(c) of the Indenture as a result of the County's failure to comply with its covenants set forth in §§12.5(a) and 12.5(b) of the Indenture to set rates and charges for services furnished by the System in an amount sufficient to provide for all interest, premium and principal payments when due and the County's failure to timely cure such defaults after notice thereof from the Trustee.

8. An Event of Default has occurred and is continuing under §13.1(c) of the Indenture as a result of the County's failure to comply with its covenants set forth in §11.1 of the Indenture including the requirement that the County deposit System Revenues as required by the Indenture and the County's failure to timely cure such defaults after notice thereof from the Trustee.

9. An Event of Default has occurred and is continuing under §13.1(c) of the Indenture as a result of the County's failure to comply with its covenants set forth in §11.3 of the Indenture including the requirement that the County satisfy the Reserve Fund Requirement and the County's failure to timely cure such defaults after notice thereof from the Trustee.

³ Capitalized terms shall have the meaning given them in the Indenture unless otherwise set forth herein.

10. An Event of Default has occurred and is continuing under §13.1(c) of the Indenture as a result of the County's failure to comply with its covenants set forth in §11.11 of the Indenture including the requirement that the County deposit System Revenues as required by the Indenture and the County's failure to timely cure such defaults after notice thereof from the Trustee.

11. Events of Default have occurred and are continuing under §13.1(c) of the Indenture as a result of the County's failure to comply with its covenants set forth in §12.2 of the Indenture including the requirement to maintain separate books and records pertaining to the System and to provide the Trustee with unaudited financial statements within ninety days after the close of the fiscal year and to provide audited financial statements to the Trustee within 180 days after the close of the fiscal year and the County's failure to timely cure such defaults after notice thereof from the Trustee.

12. Events of Default have occurred and are continuing under §13.1(c) of the Indenture as a result of the County's failure to comply with its covenants set forth in §12.5(c) of the Indenture to implement yearly increases in the rates and charges in an amount sufficient to comply with the Rate Covenant and the County's failure to timely cure such defaults after notice thereof from the Trustee.

13. The Trustee has a first priority lien on all funds of the System in its possession, the System Revenues (other than revenues derived from the Sewer Tax and any other tax revenues that constitute System Revenues) that remain after the payment of Operating Expenses, all monies from whatever source derived that are required by the Indenture to be deposited from time to time in the Debt Service Fund and the Reserve Fund, together with any investments and reinvestments of such monies and the income for proceeds thereof, and any and all other monies,

rights and properties of every kind or description which have been or hereafter may be sold, transferred, conveyed, assigned, hypothecated, endorsed, deposited, pledged, mortgaged, granted or delivered to, or deposited with Trustee by the County or anyone on its part as additional security for payment of all or any specified series of Parity Securities, or which pursuant to any of the provisions of the Indenture may come into possession or control of the Trustee as such additional security, in each case as security for the Parity Securities and the performance by the County of the covenants set forth in the Indenture (collectively the "Trust Estate").

14. Section 13.2(c) of the Indenture provides that the Trustee is entitled, as a matter of strict right, upon the order of a court of competent jurisdiction, to the appointment of a receiver upon the occurrence and continuation of any single Event of Default.

15. Section 13.2(c) of the Indenture, which provides for the appointment of a receiver to administer and operate the System with power to fix and charge rates and collect revenues sufficient to provide for the payment of the Parity Securities and any other obligations outstanding against the System or the revenues thereof and for the payment of expenses of operating and maintaining the System and with power to apply the income and revenues of the System in conformity with the Act and the Indenture, is valid and enforceable under Alabama law. The County and its taxpayers and citizens are precluded from challenging the validity of the covenants in and provisions of the Indenture by the order of the Jefferson County Circuit Court entered August 24, 2001, which order validated the provisions of the Indenture and the Parity Securities.

16. The Court has reviewed all of the evidence before it, including the parties' extensive stipulations, documentary evidence, deposition transcripts, and all of the evidence from the proceedings before Judge Proctor in the Federal Action. Based upon the totality of this

evidence, the Court finds that the facts and equities weigh in favor of appointing a receiver and that equity will not be served by refusing to enforce the Indenture as written. The Court has considered the appropriate factors under Alabama law and specifically finds that the Trustee has presented sufficient evidence to support the appointment of a receiver.

17. Upon review of the entire record before this Court, this Court finds that the evidence is undisputed that: the Trustee has a clear legal right to be protected by the appointment of a receiver; the Trustee has no other adequate remedy at law; the Trustee and the Parity Security Holders that it represents have suffered and continue to suffer irreparable harm by the loss of the System Revenues and Net Revenues Available for Debt Service that the System could generate, but is not currently generating; the County has failed to abide by the terms of the Indenture and has failed to operate the Sewer System in an economical, efficient and proper manner; and the public interest and the ends of justice will be best served by the appointment of a receiver.

18. The Court finds that a receiver will be able to stabilize the System finances and will also be able to implement significant operational improvements and efficiencies that will generate more System Revenues and more Net Revenues Available for Debt Service than Defendants have previously produced.

19. Unless a receiver is appointed, the failure of the Defendants to operate the System to generate revenues sufficient to provide for the payment of the Parity Securities and other obligations outstanding against the System, and for the payment of expenses of operating and maintaining the System will reduce the overall value of the Trustee's collateral and result in further irreparable harm to the Trustee and the Parity Security Holders.

20. The Trustee has proved its entitlement to the appointment of a receiver to ensure the economic and efficient operation of the System. The Court finds that the Trustee has met all requirements for the appointment of a receiver as set out in

- a. the Indenture;
- b. Alabama Code § 6-6-620; and
- c. the controlling legal standards in this State.

21. Because the Court is appointing a receiver after a final hearing on the merits, Alabama law does not require the Trustee to post a bond. *See Tsimpides v. Hare*, 123 So. 2d 109, 110 (Ala. 1960).

22. John S. Young, Jr. LLC, a Delaware limited liability company ("JSY"), is qualified to serve as receiver of the System, and John S. Young, Jr., has agreed to remain the majority member, and to serve as the chief executive officer of JSY for so long as JSY is serving as receiver of the System pursuant to the order of this Court.

23. Notwithstanding anything contained herein, the terms and conditions of the Indenture, the municipal bond insurance policies, and any related documents (the "Indenture Documents"), and the rights, property, powers, authority, and assets conferred therein remain in full force and effect. Nothing contained in this Order shall act to divest, in any way, the Trustee of any collateral, property, or asset under the control of the Trustee, or enjoin or otherwise prohibit the Trustee from pursuing any remedies as provided in the Indenture Documents. Nothing contained in this Order shall relieve the County of any obligation or liability under any existing judgment, order or decree.

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED as follows:

1. John S. Young, Jr. LLC ("JSY") is hereby appointed receiver over the System (as hereinafter defined) (the "Receiver"). The purpose of the receivership is to operate and administer the System in an economical and efficient manner in compliance with the terms and conditions of the Indenture to the extent possible, and subject to applicable state and federal law. To that end, the Receiver is hereby granted the full power and authority to effectively administer, operate, and protect the System.

2. The Receiver is hereby appointed to administer and operate the System, and the Receiver is specifically vested with the power to fix and charge rates and to collect revenues sufficient to provide for the payment of the Parity Securities and any other obligations outstanding against the System or the revenues thereof and for the payment of expenses of operating and maintaining the System and with the power to apply the income and revenues of the System in conformity with the Act and the Indenture. By this Order, this Court intends to and hereby does grant to the Receiver full power and authority to administer and operate the System, subject to the Consent Decree,⁴ applicable state and federal laws and the terms of the Indenture. The Receiver's powers include but are not limited to the following:

- a. The sole and exclusive right and authority to take complete and exclusive possession, control and custody of the System in order to operate and administer the System and to perform all acts necessary or desirable to administer and operate the System in the ordinary course of business.

⁴ The decree entered into in those civil actions consolidated in the United States District Court, Northern District of Alabama, and styled *United States of America v. Jefferson County, Alabama, et al.*, Civil Action No. 94-G-2947-S, and *R. Allen Kipp, Jr., et al. and Cahaba River Society, Inc. v. Jefferson County, Alabama, et al.*, Civil Action No. 93-G-2492-S (the "Consent Decree"), 33 U.S.C. § 1251 *et seq.* (the Clean Water Act), and all NPDES permits.

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- b. The sole and exclusive right and authority to implement operational efficiencies and revenue enhancement programs, that the Receiver, in its business judgment, may deem necessary for the administration or the operation of the System.
- c. The sole and exclusive right and authority to fix and charge rates and charges for services furnished by the System, to collect revenues sufficient to provide for the payment of the Parity Securities and any other obligations outstanding against the System or the revenues thereof and for the payment of expenses of operating and maintaining the System and to apply the income and revenues of the System in conformity with this Order, the Act and the Indenture, and to make reasonable reductions in the System's Operating Expenses, that the Receiver, in its business judgment, may deem necessary for the administration or the operation of the System.
- d. The sole and exclusive right to receive, collect, take possession of, and preserve all accounts, incomes, profits, and other revenues generated from and by the System, that the Receiver, in its business judgment, may deem necessary for the administration or the operation of the System.
- e. The sole and exclusive right and authority to terminate or modify any currently existing written or oral contract of the County (other than the Indenture Documents and the Parity Securities) and to assume and assign any such contract, to the extent the Receiver, in its business judgment, may deem necessary for the administration or operation of the System. Any

damages resulting from the termination or modification of a contract will be paid with System Revenues.

- f. The sole and exclusive right and authority to enter into new contracts on behalf of the County for goods or services, that the Receiver, in its business judgment, may deem necessary for the administration or operation of the System.
- g. The sole and exclusive right and authority to file, investigate, institute, prosecute, defend, compromise, adjust or intervene in any action or proceeding, legal, equitable or otherwise, before this Court, or any other appropriate court, agency or tribunal, that the Receiver, in its sole business judgment, may deem necessary for the administration or operation of the System.
- h. The right and authority to investigate and determine the nature and extent of prior expenditures may have been improperly classified as Operating Expenses, to take all reasonable and necessary action to have such expenses properly classified, and to investigate and determine whether System Revenues have been deposited as required by the Indenture and to take all reasonable and necessary action to recover System Revenues that have not been properly deposited, that the Receiver, in its sole business judgment, may deem necessary for the administration or operation of the System.
- i. The sole and exclusive right and authority to require the County to provide County employees to work for the System, as the Receiver, in its business judgment, may deem necessary for the administration or operation of the

System (the "System Staff"). The System shall reimburse the County for all compensation and benefits earned by the System Staff working for the System in this proceeding. The Receiver and the System shall not, for any purpose, be deemed the employer of any System Employee, who shall remain employees of the County. Any claim of a System Staff against the Receiver or the System shall be subject to the liability limitations set forth in this Order.

- j. The sole and exclusive right and authority to hire, discharge, manage and control System Staff, as the Receiver, in its business judgment, may deem necessary for the administration or operation of the System.
- k. The sole and exclusive right and authority, to enter into contracts for any insurance as the Receiver, in its business judgment, may deem necessary for the administration or operation of the System.
- l. The sole and exclusive right and authority to engage professionals, which may include but is not limited to American Water Works Company and its affiliated companies (collectively "American"), communication consultants, investment bankers, consultants, brokers, accountants, forensic and investigative accountants, engineers, licensed wastewater operators and attorneys and other service providers (collectively, the "Professionals and Service Providers"), as it may deem necessary in its business judgment to assist the Receiver in the performance of its duties as necessary during the period of the receivership.

- m. The Receiver's compensation for its services under this Order, not including any fee or expense of any broker, auctioneer, attorney, accountant or Professional and Service Provider retained by the Receiver, shall be five hundred dollars (\$500.00) per hour with respect to the time devoted by John S. Young, Jr. to the work of the Receiver, not to exceed ten hours per day, plus the Receiver's reasonable and necessary out-of-pocket expenses directly related to the performance of its duties; including, but not limited to, local housing, meals, travel, local transportation, and transportation to and from the chief executive officer's primary residence. The Receiver shall file with this Court on a monthly basis an application for approval of the Receiver's fees and expenses during the pendency of the receivership and serve copies upon the County and the Trustee. If no objection is filed with this Court by the County or the Trustee within ten days of the service of the application, the Receiver shall be paid the fees and expenses covered by the application from System Revenues as an Operating Expense, subject to this Court's approval of the fees and expenses.
- n. Each of the Professional and Service Providers shall file with this Court on a monthly basis a fee application for approval of their respective fees and expenses during the pendency of the receivership and serve copies upon the County and the Trustee. If no objection is filed with this Court by the County, the Trustee or the Receiver within ten days of the service of a fee application, the Receiver shall pay the respective Professional and Service Provider the fees and expenses covered by the application from System

Revenues as an Operating Expense, subject to this Court's approval of the fees and expenses.

- o. The right and authority to submit applications for grants or other funding through state or federal programs, as the Receiver, in its business judgment, may deem necessary for the administration or operation of the System.
- p. The right and authority to request from the Trustee disbursements of funds of the System then on deposit with the Trustee and available under the Indenture for capital expenditures for use by the Receiver for the preservation or enhancement of the System as contemplated by the Capital Improvement Budget prepared by the Receiver in accordance with Section 8 hereafter of this Order, as the Receiver, in its business judgment, may deem necessary for the administration or operation of the System. Upon a request of the Receiver certifying that the expenditure of funds requested to be disbursed is for the preservation or enhancement of the System, the Trustee shall disburse funds available for capital expenditures under the Indenture to the Receiver unless otherwise ordered by the Court.

3. The Receiver shall have the right and authority to generally, do, execute, and perform any other act, deed, matter or thing whatsoever that the Receiver, in its business judgment, reasonably believes ought to be done, executed, or performed, for the administration or operation of the System.

4. Upon entry of this Order and its acceptance of the office, the Receiver is directed and empowered to take from the County all rights and powers of the County that the Receiver, in its business judgment, may deem necessary for the administration or operation of the System.

The System as used herein shall mean any and all funds of the County from the System, including federal and state grants in respect of the System and property which is used in or related to the System, including but not limited to:

- a. any and all real, or personal property used in or related to the maintenance and operation of the System, including but not limited to all mains, laterals, collectors, transmission mains, outfalls, pumping stations, sewage disposal plants, sewage treatment plants, equipment, fixtures, machinery, motor vehicles, automobiles, trucks, other rolling stock, leasehold improvements, construction work in progress, supplies, raw materials, inventory, goods, work in process, parts, computers, computer software, (including all documentation and source codes with respect thereto, and licenses and leases), telecommunication systems, fixtures, furniture, furnishings, office equipment, all tangible property furnished by or used in connection with, as well as all rights, easements and franchises appurtenant thereto, (collectively, the "Physical Assets");
- b. any and all cash, cash equivalents, bank accounts, deposit accounts, credits, prepaid expenses, deposits, deferred charges, advance payments, security deposits, prepaid items, funds (including the County's rights to all Funds, as defined in the Indenture), securities, investment accounts, accounts receivable, notes, notes receivable, mortgages, security interests, income, that portion of the County general fund to the extent that it consists of receipts and revenues (including payments received from customers) on account of or related to the System, System Revenues, the "Jefferson County

System Revenue Account,” and including amounts received by the County as (a) grants or borrowed funds for improvements or extensions to the System, (b) deposits or payments by contractors to offset the cost of extensions or new connections, and (c) customer deposits to ensure payment for utility services whether or not held in a separate account or accounts pending use thereof for the said purposes, insurance claims, insurance proceeds and any and all other rights to receive payments and/or property used in, generated from or related to the administration, maintenance and operation of the System as well as all rights, interests, licenses and franchises related thereto (collectively, the “Cash Equivalent Assets”);

- c. any and all records, documents, operating data and/or electronically stored information (the “ESI”) and computer operating systems in which the ESI is stored, in the possession, custody or control of the County, related to or used in the administration, maintenance or operation of the System thereof (collectively, the “System Records”); and
- d. any and all of the internet domain names, post office box numbers, telephone and facsimile numbers, and other listings and numbers used by the System (collectively, the “Contact Information Assets”).

Collectively, the assets of the System set forth in this paragraph are hereinafter referred to as the “Assets.” For the avoidance of doubt, if any Physical Asset, System Record, or Contact Information Asset is used in or related to the System, but whose primary purpose is with respect to operations of the County unrelated to the System, then the Receiver’s rights to the use, control and management of such Assets shall be governed by Section 16 hereafter of this Order.

5. The Receiver shall post a bond with the Clerk of this Court in the amount of one hundred thousand dollars (\$100,000) within ten (10) business days of the entry of this Order. The expense of the bond shall be payable by the Receiver from the System Revenues.

6. The Parties shall have no authority to administer or operate the business and affairs of the System, which authority by this Order is vested solely and exclusively in the Receiver. Without limiting the generality of the foregoing, the Parties shall have no authority to make or commit to any expenditure of funds or resources of the System, which authority shall reside exclusively with the Receiver.

7. Upon notice of this Order any person or entity, or any employee or agent of such person or entity, shall be deemed to be required to comply with all of the terms of this Order until the Court shall have relieved such person from the terms of this Order by subsequent order.

8. The duties and responsibilities of the Receiver shall include the following:

- a. The Receiver shall use its reasonable best efforts to cause the System to comply with the requirements imposed on the County by the Consent Decree.
- b. The Receiver shall make an accounting and keep accurate records concerning the System, including the actual revenues collected and expenses paid each month, and make such records available to the Trustee, the County, and the Court during normal business hours and upon reasonable notice.
- c. The Receiver shall permit the Trustee or Defendants and its or their agents and independent contractors to inspect fully the Assets, the System's

accounts, and all books and records, including records as to the maintenance of any Assets during normal business hours and upon reasonable notice.

- d. The Receiver shall annually propose a capital improvements budget, the amount of which shall not exceed \$25,000,000 per year without further express approval by this Court.
- e. The Receiver shall consult with Bond Counsel and make reasonable efforts to operate the System so that the tax-exempt status of the Parity Securities is maintained and preserved, to the extent that condition exists today.

9. The County is ordered immediately to deliver over to the Receiver: (a) full access to all System Records, including but not limited to any ESI; and (b) full and exclusive control over all Cash Equivalent Assets, including all authorizations or other documentation necessary or desirable for the Receiver to exercise full and exclusive control over the Cash Equivalent Assets. The Receiver shall have the absolute right, but not the duty, to change any accounts or other investment funds in which the Cash Equivalent Assets are currently maintained to any other account or fund if such change is in compliance with the terms of the Indenture, as the Receiver, in its business judgment, may deem necessary for the administration or operation of the System.

10. The Receiver shall have full and sole control over all Assets, as defined above, including all authorizations or other documentation, as the Receiver, in its business judgment, may deem necessary for the administration or operation of the System. The Receiver's administration and operation of the System shall not diminish the duties and cooperation required of the Defendants by this Order.

11. Any expenditures authorized by this Order for the administration and operation of the System (other than any expenditure chargeable to a capital account or that would be

characterized as an extraordinary item) and any and all expenses of the Receiver arising out of or related to the Receiver's administration or operation of the System or the implementation of this Order shall be paid from the System Revenues as Operating Expenses. Costs and expenses of the Receiver shall not be a general indebtedness or pledge of the full faith and credit of the County or a claim on the taxing power of the County or charge against any debt limit imposed on the County by the constitution or law of the State of Alabama.

12. The Receiver shall not have the authority, absent express order of this Court, to sell or otherwise dispose of the System or any single Asset.

13. The Parties along with their agents, employees, officials, officers and successors shall fully cooperate with the Receiver and the receivership in all matters related to this Order and the Receiver's administration and operation of the System, including the Parties executing all documents, providing all authorizations and taking any other action that the Receiver, in its business judgment, may deem necessary for the administration or operation of the System.

14. The Defendants are specifically enjoined from taking any action, other than in this Court or by appeal of this Order, which would interfere with the Receiver's administering and operating of the System or the Assets or remove any of the Assets from the control of the Receiver.

15. Unless otherwise requested by the Receiver, the County shall continue to maintain all insurance on the System required by the Indenture; provided, however, all premiums for such insurance to the extent relating to the System shall be Operating Expenses, as provided in the Indenture.

16. Unless and to the extent the Receiver notifies the County that the County shall not do so, the County shall continue to provide to the System all services that the County has

provided to the System since the execution and delivery of the Indenture, and shall do so with no less frequency, quality, quantity or timeliness (the "Historic Services"). If and to the extent that the Receiver notifies the County that it shall discontinue or diminish any of the Historic Services, the County shall comply with its request. If the Receiver elects to have the County continue to provide Historic Services for the System, the County shall continue to provide them at a reasonable cost. All reasonable costs of Historic Services shall constitute Operating Expenses, as provided in the Indenture.

17. The Receiver and its officers, agents, servants, attorneys, members, managers, directors, shareholders, representatives, employees, successors and assigns and any other Professional and Service Provider (jointly and severally with the Receiver, the "Receiver Affiliates") engaged by the Receiver shall owe duties only to the System and to this Court and shall not owe any duty, directly or indirectly, to the Plaintiff, the Defendants or any other party.

18. The Receiver Affiliates shall not have personal liability for any liabilities of the System or obligations incurred pursuant to the terms of this Order or any other order of this Court. In the event that any such liability or obligation is at any time asserted against the Receiver Affiliates on account of any claimed liability of, through or under the System, any order of this Court or the County, the Receiver may use System Revenues to contest any such claimed liability and to pay, compromise, settle or discharge same on terms reasonably satisfactory to the Receiver. Such expenditures shall constitute Operating Expenses. The Receiver shall in no event be required to use personal funds or any other funds for such purpose. The County shall enjoy the same protections afforded the Receiver pursuant to this Order with respect to any claims of liability asserted against the County for actions of the Receiver.

19. The Receiver Affiliates shall perform the duties and obligations imposed on them by this Order with reasonable diligence and care under the circumstances. Neither the Receiver nor any Receiver Affiliate shall be personally liable to the County or to any third party except for such of its or their own acts as shall constitute fraudulent or willful misconduct determined by a final, nonappealable order of this Court. Except as aforesaid, the Receiver and the Receiver Affiliates shall be defended, held harmless and indemnified from time to time from the System's Revenues against any and all losses, claims, costs, expenses and liabilities (including legal fees, costs and expenses), and any costs of defending any action, suit, proceeding or investigation to which the Receiver or the Receiver Affiliates' may be subject by reason of their execution in good faith of their duties under this Order or any other order of this Court; provided, however, such indemnity shall be payable from the System Revenues and shall not be a general indebtedness or pledge of the full faith and credit of the County or a claim on the taxing power of the County or charge against any debt limit imposed on the County by the constitution or law of the State of Alabama. The Receiver may obtain for the Receiver's benefit, the benefit of the Receiver Affiliates and the benefit of the System, at the reasonable expense of the System, insurance against claims for liability, damage awards and settlements. Such expenditures shall constitute Operating Expenses.

20. Any claim brought against the Receiver, System, or any Receiver Affiliate by any third party related in any way to the System or the administration, operation or control of the System by the Receiver (the "Receiver Claims") shall be filed in this Court. In addition, subject to orders of courts of superior jurisdiction to this Court, no judgment of a party other than the Trustee shall be enforced against the Assets absent further order of this Court..

21. As an appointee of this Court and in carrying out the orders of this Court, the Receiver and the Receiver Affiliates shall have the same judicial immunity as this Court possesses. Furthermore, the Receiver and the Receiver Affiliates are not and shall not be considered public officials or public employees for any purpose, notwithstanding any other provision of this Order to the contrary.

22. This Order shall not prohibit nor be construed to prohibit the Receiver or any Receiver Affiliate from performing work for third parties that is not related to the System.

23. The System and the Assets shall be subject to and liable for only such local and state taxes as the County would have been liable for in its operation of the System or the Assets.

24. The Receiver may only be removed by order of this Court upon appropriate motion, notice and hearing, after a showing, by clear and convincing evidence, of good cause by the Plaintiff or the Defendants.

25. Starting thirty (30) days after the entry of this Order, and within twenty (20) days after the end of each calendar month thereafter, the Receiver shall file with this Court monthly reports concerning the financial results of the operations of the System.

26. The Receiver may seek direction from this Court on any matter related to this Order, including but not limited to, relief from or modification of the provisions of this Order. The Receiver may also seek such further orders of this Court as it deems necessary or expedient to carry out its duties and responsibilities under this Order.

27. At the completion of its duties set forth in this Order, the Receiver may file a motion seeking to terminate its position and to be discharged of its responsibilities as Receiver and the Court supervision of the System. The Receiver may resign and be discharged of its responsibilities at any time by giving ninety (90) days' prior written notice to this Court. Upon

the satisfaction and discharge of all indebtedness and obligations secured under the Indenture, the Court shall enter an Order, as appropriate, terminating the receivership.

28. Until the Receiver is discharged and this receivership terminated, the Court retains jurisdiction of this matter for the following purposes:

- a. to amend, supplement, or delete any provision of this Order;
- b. to enforce compliance with or to punish violation of this Order; and
- c. to order any additional actions or remedies as may be appropriate or reasonably necessary.

29. The County shall give the Receiver prompt notice of all investigations, claims or potential claims, and actions now pending or later brought against the County related to the System.

IT IS FURTHER ORDERED as follows:

30. The Trustee's Motion for Partial Summary Judgment is hereby **GRANTED**. The Defendants' Cross Motion for Summary Judgment is hereby **DENIED**.

31. The Trustee is awarded a money judgment against the County in the amount of \$515,942,500.11; provided, however, (i) recourse in the enforcement of this judgment shall be limited to the Trust Estate, (ii) this judgment shall not constitute a general indebtedness or pledge of the full faith and credit of the County or a claim on the taxing power of the County or charge against any debt limit imposed on the County by the constitution or law of the State of Alabama, and (iii) the money judgment lien shall not effect the priority of the lien of the Indenture in favor of the Trustee under the Indenture, which shall be first and prior to the lien of the money judgment.

32. On or before the last business day of each calendar month, the Receiver shall pay to the Trustee all System Revenues and other funds of the System then in its possession that

remain after the payment of Operating Expenses, less any operating reserve as the Receiver, in its business judgment, may deem necessary for the administration or operation of the System and as approved by the Trustee.

33. The reversal or modification on appeal of this Order shall not affect the validity of any actions taken in good faith by the Receiver or any Receiver Affiliate, the payment of compensation to which the Receiver or any Receiver Affiliate is entitled, or the payment of expenses incurred by the Receiver or a Receiver Affiliate pursuant to the terms of this Order.

34. This Order shall be immediately effective upon its entry and shall continue until further order of this Court.

SO ORDERED this 22nd day of September, 2010.



Albert L. Johnson, Circuit Judge

**Proposed Terms and Conditions for Settlement and Refinancing
of Jefferson County's Outstanding Sewer Warrants**

September 14, 2011

**FOR SETTLEMENT PURPOSES ONLY; CONFIDENTIAL SETTLEMENT
COMMUNICATION PROTECTED BY ALA. R.EVID. 408 and FED R. EVID. 408**

The terms reflected herein are entirely contingent upon the negotiation and execution by all parties of a comprehensive settlement agreement and related documents, and satisfaction or waiver of all conditions contained in all fully negotiated agreements and documents.

Jefferson County (the "County") and the participating holders of sewer warrants (the "Creditors") would agree to settle and refinance the County's outstanding sewer debt based upon the following general terms and conditions to be contained in comprehensive settlement documentation:

1. **Refinancing.** The parties are engaged in ongoing negotiations and anticipate a settlement in the approximate amount of \$2.05 billion to redeem all outstanding sewer warrants (contingent on an additional \$.03 billion in creditor concessions from Creditors to be identified in the future). Key provisions of refinancing debt to be issued by a newly formed public corporation (the "Refinancing") would include the following or other terms and conditions acceptable to the County and appropriate to effectuate the Refinancing:
 - (a) 40-year term.
 - (b) 1.25x debt service coverage.
 - (c) 10% Debt Service Reserve ("DSR"), half of which may be funded (at the County's option) by a surety bond provided by Assured Guaranty.
 - (d) Priority pledge of net sewer revenues.
 - (e) Moral obligation covenant by State of Alabama to seek legislative appropriations to replenish draws, if any, on the DSR.
 - (f) Up to \$1.0 billion of bond insurance (at the County's option) provided by Assured Guaranty.
 - (g) Issuance costs paid by County or GUSC (described in section 2 below).
 - (h) Closing: No later than June 30, 2012.
 - (i) Projected capital needs covered by existing warrant reserves and future cash flow.
2. **Creation of an independent public corporation for management and financing of the sewer system.** The County will seek, with the Governor's support, legislation in a

special session to authorize creation of a new form of governmental utility service corporation (GUSC) to serve as the issuer of the Refinancing debt and the operator of the sewer system.

- (a) Majority of GUSC directors to be appointed by Governor based on recommendations from the County; remainder to be appointed by County. All directors to possess appropriate professional credentials as specified in enabling legislation. County to appoint all GUSC directors after Refinancing bonds are satisfied, or refinanced without credit support from State.
 - (b) GUSC will be specifically authorized to file Chapter 9 with consent of the Governor. GUSC to covenant not to contest treatment of the pledged revenues as "special revenues" as defined in 11 U.S.C. section 902(2). Once the Refinancing bonds are paid or refinanced without credit support from the State, the GUSC will be eligible to file Chapter 9 without the Governor's consent.
 - (c) System to be transferred or otherwise conveyed to GUSC at close of Refinancing on terms assuring the County's right to return of the system assets upon satisfaction or payment of Refinancing debt. The GUSC shall be prohibited from selling, transferring, creating a lien on, or otherwise alienating the system assets without the prior approval of the County. Notwithstanding the foregoing, the system will only be transferred to the GUSC if such transfer is necessary to effectuate the Refinancing. If the Refinancing can be accomplished without such transfer, the County may determine whether or not to transfer the system assets to the GUSC.
 - (d) Receiver to remain in operating control of the sewer system until closing of the Refinancing pursuant to the Receiver order.
3. **Independent Consultants.** The Receiver's financing and operating models, including projections of capital expenditures and operating costs (upon which the County has relied in projecting future sewer rates and in creditor negotiations) may be verified by independent consultants retained by the County. Receiver to pay the reasonable costs thereof from sewer revenues.
 4. **Rates.** It is anticipated that the Refinancing would require approximate rate increases of 8.2% for each of the first three years beginning November 1, 2011 (or as soon thereafter as possible), and future projected annual increases of no more than 3.25% for operating expenses and capital requirements until such time as the debt service requirements related to the Refinancing are met. The Receiver, acting pursuant to the terms of this term sheet, shall initiate the first rate increase immediately upon the County's approval of this term sheet (which shall occur no later than September 28, 2011). The first rate increase shall be consistent with the terms of this term sheet and the parties' overall settlement proposals.
 5. **Environmental Services Department Overhead Charges.** All outstanding overhead charges of the County for services to the Environmental Services Department (ESD) shall

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IN THE CIRCUIT COURT OF
JEFFERSON COUNTY, ALABAMA

THE BANK OF NEW YORK) Civil Action No.
MELLON,)
) CV-2009-02318
Plaintif,)
)
vs.)
)
JEFFERSON COUNTY, ALABAMA,)
et al.,)
)
Defendats.)

VIDEOTAPE DEPOSITION OF PEIFFER BRANDT
(Taken by Plaintiff)
Charlotte, North Carolina
May 17, 2010

Reported in Stenotype by
Rebecca L. Arrison, Court Reporter
Transcript produced by computer-aided transcription

1 THE VIDEOGRAPHER: Here begins
2 videotape number one in the deposition of Peiffer
3 Brandt, in the matter of Bank of New York Mellon
4 versus Jefferson County, Alabama, et al., in the
5 Circuit Court of Jefferson County, Alabama, Case
6 Number CV 2009-02318.

7 Today's date is the 17th of May,
8 2010. The time on the monitor is 9:15. Our video
9 specialist today is Sharon Rudow, contracted by
10 CaseWorks.

11 This video deposition is taking
12 place in the law offices of Poyner Spruill, 301
13 South College Street, Charlotte, North Carolina.

14 Counsel, please identify yourself
15 and state who you represent.

16 MR. CHILDS: This is Larry Childs,
17 along with Ryan Cochran. We represent the
18 plaintiff trustee.

19 THE VIDEOGRAPHER: Thank you.

20 MR. BLACK: This is Dylan Black. I
21 represent the defendants, Jefferson County,
22 Alabama, and the commissioners that have been
23 individually named in the case.

24 MR. FOGARTY: Pat Fogarty with
25 Poyner Spruill representing the witness, Peiffer

CaseWorks, Inc. (336) 768-7554

1 Brandt and Raftelis Financial Consultants.

2 THE VIDEOGRAPHER: Thank you. Would
3 all others at the table please identify yourself
4 for the record.

5 MR. COCHRAN: Ryan Cochran on behalf
6 of the Indenture Trustee.

7 THE VIDEOGRAPHER: Thank you. Our
8 court reporter today is Rebecca Arrison. Would
9 Madam Court Reporter please swear in the witness.

10 PEIFFER BRANDT,
11 being first duly sworn, testified as follows:

12 THE VIDEOGRAPHER: Please begin,
13 sir.

14 EXAMINATION

15 BY MR. CHILDS:

16 Q. What is your name?

17 A. Peiffer Alan Brandt.

18 Q. By whom are you employed?

19 A. Raftelis Financial Consultants.

20 Q. How long have you been employed by Raftelis
21 Financial Consultants?

22 A. Since September of 1997.

23 Q. Did you receive a Master's in Science degree
24 in 1997?

25 A. I did.

CaseWorks, Inc. (336) 768-7554

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Q. Okay. I wonder if you would do two more calculations and then we will close that Exhibit.

Assuming that the lower figure that you calculated was correct that the average annual bills were the lower figure, would you calculate how much Jefferson County could raise its volumetric charges and still be at or under the 2 percent threshold that you calculated?

A. Percentage or nominal?

Q. Percentage. Percentage.

What did you come up with?

A. Let me just confirm.

Q. Oh, sure. Sure.

A. Could increase 250 percent.

CaseWorks, Inc. (336) 768-7554

1 Q. Okay. That's with the lower figure?

2 A. That is with the -- actually that is with the
3 lower figure. It's 2-1/2 times -- the rate could
4 increase 150 percent.

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CaseWorks, Inc. (336) 768-7554

1 STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

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REPORTER'S CERTIFICATE

4 I, Rebecca L. Arrison, a Notary Public in and for
5 the State of North Carolina, do hereby certify that
6 there came before me on Monday, the 17th day of May,
7 2010, the person hereinbefore named, who was by me duly
8 sworn to testify to the truth and nothing but the truth
9 of his knowledge concerning the matters in controversy
10 in this cause; that the witness was there upon examined
11 under oath, the examination reduced to typewriting under
12 my direction, and the deposition is a true record of the
13 testimony given by the witness.

14 I further certify that I am neither attorney or
15 counsel for, nor related to or employed by, any attorney
16 or counsel employed by the parties hereto or financially
17 interested in the action.

18 IN WITNESS WHEREOF, I have hereto set my hand, this
19 20th day of May, 2010.

20

21

22

23 _____
Rebecca L. Arrison, Notary Public

24 My Commission Expires: 2/28/2013

25

CaseWorks, Inc. (336) 768-7554

1 IN THE CIRCUIT COURT FOR
2 JEFFERSON COUNTY

3
4 CASE NUMBER: CV-2009-02318

5
6 THE BANK OF NEW YORK MELLON,

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8 Plaintiff,

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10 VS

11
12 JEFFERSON COUNTY, ALABAMA, et al.,

13
14 Defendants.

15
16 IT IS STIPULATED AND AGREED by
17 And between the parties through their respective
18 counsel, that the video deposition of ERIC
19 ROTHSTEIN may be taken before JANET ARLEDGE,
20 CCR, RPR, Commissioner, at the offices of
21 BRADLEY, ARANT, BOULT, CUMMINGS, LLP at One
22 Federal Place, Birmingham, Alabama, on the 23rd
23 of August, 2010.

367 Valley Avenue Birmingham, Alabama (877) 373-3660

1 Would counsel identify
2 themselves and state who they represent?

3 MR. CHILDS: I'm Larry Childs along
4 with Paul Davidson. I represent the Plaintiff,
5 the New York Bank Mellon, as trustee.

6 MR. RICHIE: I'm Thomas Richie with
7 Bradley Arant. This is Wally Sears with me. We
8 represent the Defendant, Jefferson County,
9 Alabama.

10 VIDEOGRAPHER: Would the court reporter
11 please swear in the witness?

12
13 ERIC PAUL ROTHSTEIN,
14 Having been first duly sworn, was examined and
15 testified as follows:

16
17 EXAMINATION BY MR. CHILDS:

18 Q. What is your name?

19 A. Eric Paul Rothstein.

20 Q. Where do you live, Mr. Rothstein?

21 A. At 740 South Federal Street, Chicago,
22 Illinois.

23

367 Valley Avenue Birmingham, Alabama (877) 373-3660

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Assuming
that to be the case, do you know of any reason
that rate increases of up to 25 percent per year
for Jefferson County would not be reasonable?

A. I think in the context of a strategic
financial plan, that would contemplate 25
percent rate increases for some period of time
that that may fall within the range of
reasonableness.

367 Valley Avenue Birmingham, Alabama (877) 373-3660

1 C E R T I F I C A T E

2 STATE OF ALABAMA)

3 JEFFERSON COUNTY)

4 I, Janet Arledge, CCR, RPR,
5 Commissioner, do hereby certify that I recorded,
6 by means of stenotype, the foregoing proceedings
7 at the time and place stated in the caption
8 hereof. That later, under my supervision, the
9 proceedings were transcribed by means of
10 computer-aided transcription, and the foregoing
11 represents a full, true, and correct transcript
12 of the proceedings on said occasion.

13 I further certify that I am neither of
14 counsel nor of kin to any parties of said cause,
15 nor am I in any manner interested in the result
16 thereof.

17

18

19 Janet Arledge, CCR, RPR

20 CCR #288, Expires 9/30/11

21 Commission Expires: 1/25/14

22

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367 Valley Avenue Birmingham, Alabama (877) 373-3660



511 East Boulevard
Charlotte • NC • 28203

Phone 704 • 373 • 1199
Fax 704 • 373 • 1113

www.raftelis.com



March 5, 2009

Mr. Patrick Darby
Bradley Arant Boult Cummings LLP
One Federal Place
1819 Fifth Avenue North
Birmingham, Alabama 35203-2119

Subject: Recommended Cost of Living Rate Adjustment

Dear Mr. Darby:

Raftelis Financial Consultants, Inc. recommends that Jefferson County increase sewer rates consistent with a cost of living adjustment. We recommend using the consumer price index for U.S. All Items Less Food and Energy. The October 2007 to October 2008 increase for this index is 2.22%. Should you have any questions about this recommendation, please contact me.

Sincerely yours,
RAFTELIS FINANCIAL CONSULTANTS, INC.

Peiffer A. Brandt
Vice President and Chief Operating Officer

RFC_0089165

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION

THE BANK OF NEW YORK MELLON,)	
<i>as trustees for Sewer Revenue</i>)	
<i>Refunding Warrants Series; Sewer</i>	)	Case No. 2:08-cv-01703-RDP
<i>Revenue Capital Improvement</i>)	
<i>Warrants Series, et al.</i>)	
	)	Birmingham, Alabama
PLAINTIFFS,)	
	)	February 25, 2009
VS.)	
	)	9:15 a.m.
)	
JEFFERSON COUNTY, ALABAMA, et al.))	
)	
DEFENDANTS.)	
)	
VS.)	
WILLIAM BELL, et al.)	
)	
COUNTER-CLAIMANTS.)	

* * * * *
TRANSCRIPT OF HEARING IN THE ABOVE CASE
HELD BEFORE THE HONORABLE R. DAVID PROCTOR
UNITED STATES DISTRICT JUDGE

APPEARANCES :

FOR THE PLAINTIFFS:	Larry B. Childs, Esq.
	Henry E. Simpson, Esq.
	Gerald Mace, Esq.
	Brian Malcom, Esq.
	Henry E. Simpson, Esq.
	George B. South, Esq.
	Hovey S. Dabney, Esq.
FOR THE DEFENDANT JEFFERSON COUNTY:	Joseph B. Mays, Jr., Esq.
	Dylan C. Black, Esq.
	J. Patrick Darby, Esq.

Also Present:	Jeffrey Sewell, Esq.
	Mark P. Williams, Esq.

COURT REPORTER:	Anita M. McCorvey, RMR
	Hugo Black Courthouse
	1729 5th Avenue N., Ste 325
	Birmingham, AL 35203

1 process.

2 But are you confident that we're going to be able to at
3 least have some active discussion and decision-making about
4 some of those recommendations to see if we can head off the
5 need for a hearing like this?

6 MR. DARBY: Yes, sir, Your Honor, I think so. And,
7 you know, I think our recommendations to the Commission will
8 recommend doing some things to pursue some of the Special
9 Masters' recommendations.

10 THE COURT: All right.

11 MR. DARBY: Some other recommendations, we have some
12 continuing legal and other practical concerns about that we're
13 still trying to work through.

14 THE COURT: Okay. Fair enough. I had planned to
15 ask you about some specific things about the Special Masters,
16 and I know counsel are aware of this. I think it would be
17 important to state this just generally. I think there's a
18 misconception about the role of the Special Masters. I know
19 this, in part, because of people coming up to me on the street
20 asking about the Special Masters.

21 But generally the idea of the Special Masters was a
22 non-mandatory, neutral, recommended by both sides -- Mr. Young
23 recommended by the County and Mr. Ames recommended by the
24 plaintiffs -- who would meet together, confer, meet with
25 people at the County and put forward recommendations that

1 should be strongly considered. All right?

2 I did that because I thought, just as Mr. Dabney
3 suggested, that if we could reach some agreements in the
4 interim about interim management decisions that preserved both
5 parties' position throughout the litigation without the need
6 for a receiver being either suggested or appointed, that would
7 be a good thing.

8 All right. So that was the purpose of the Special Master
9 is an effort to try to hold off the need to even consider a
10 receiver.

11 I guess my greatest disappointment at this point is I'm
12 not so certain based upon what I've seen that the Commission,
13 in particular, understands that. And I'm not so certain that
14 the Commission understands that that is a great opportunity
15 and benefit to it. And I can drag the horse to the water but
16 I can't make it drink.

17 So that's one of the things I want to get across today is
18 I expect there to be substantive dialogue about some of those
19 things. I'm not saying any one recommendation is meritorious
20 or not meritorious. But what I am saying is I think the
21 Special Masters did a good job of going A to Z, things that
22 are very reasonable, things that may even be stretching the
23 boundaries of, you know, what we really need to consider; but
24 I asked them to make a recommendation about everything, and
25 that they've done, and I think it's a very solid effort on

1 their part.

2 I don't think that they are wedded to any particular
3 recommendation, but they wanted to get it out there for
4 discussion and dialogue, and I expect that to occur.

5 On the other side of the coin, I expect that the
6 plaintiffs will work reasonably with respect to those
7 recommendations and try to seek a win-win too. All right?

8 So I'm not lecturing just one side; I'm just laying out
9 my expectations of how we need to deal with this report within
10 the next few days before we have to have a hearing next month.

11 All right. Obviously there's some friction in there.
12 And you can stay there if you want to. You're not required
13 to.

14 MR. DARBY: Thank you, Your Honor.

15 THE COURT: I'm not addressing you personally; I'm
16 addressing everyone just generally.

17 MR. DARBY: Thank you.

18 THE COURT: I guess there's some questions that are
19 raised by some of these recommendations because some of them
20 involve personnel issues. I don't know exactly what extent
21 the County can unilaterally -- or the parties can agree, or
22 the Special Masters can recommend.

23 Some of these personnel issues -- because we have a
24 personnel board, for example, I know we have some legal issues
25 that aren't directly injected in this case that would be

1 MR. SEWELL: Your Honor, we would -- anything that
2 requires an amendment to the sewer rate ordinance, which is
3 the controlling document --

4 THE COURT: And I'm not talking about rate
5 increases, per se. I mean, I understand that's a process that
6 you have to have go on.

7 And, you know, I'll let one cat out of the bag. I'm not
8 really wild about non-user fees. You know, I don't know
9 exactly what that means and exactly what's being proposed,
10 but, Mr. Sewell, I think you've heard me loud and clear --

11 MR. SEWELL: I have heard you loud and clear.

12 THE COURT: -- that you have a substantial debt
13 load; you have limited revenues, and so far as I can tell,
14 your client has no plan. And that's a concern to me. That is
15 a big concern to me.

16 MR. SEWELL: Understood. Judge, it's not just sewer
17 rates. Impact fees. Restrap fees, connection permits. All
18 of those are in that sewer user plan.

19 THE COURT: I understand. I understand.

20 MR. SEWELL: And that will require a public hearing.

21 THE COURT: Well, there are two things that are in
22 that report at least. There's revenue enhancements. But
23 there is also expense controls.

24 MR. SEWELL: Yes.

25 THE COURT: I would expect that someone who was in

1 as great a debt as your client is wouldn't have to be chided
2 by a Special Master or the Court to look at expense controls.
3 Fair?

4 MR. SEWELL: Fair.

5 THE COURT: Okay. That's something that ought to --
6 we shouldn't have gotten to the point where the Special
7 Masters were making recommendations about expense controls.
8 That ought to have been whoever's at the Commission level
9 supervising that area engaging that practically, whether it's
10 all five or one or committee or I don't know who it is. I
11 don't know who's responsible for that ultimately, but that
12 seems to me that that needs to be being done yesterday, not
13 today or tomorrow.

14 So it seems to me a fair expectation of the Court that
15 I'm going to hear back from you in some formal way as far as a
16 record being built about what your responses are to the things
17 that you can control and can do and understanding that there
18 are certain things that you'll have to have a hearing on
19 because you can't unilaterally implement those. And it
20 wouldn't be good government; it wouldn't be good -- it
21 wouldn't be a fair process if you just unilaterally
22 implemented some of those things. But there are some things
23 that can be done and considered now.

24 MR. DARBY: That's correct, Your Honor. And just as
25 an example, in a further clarification of that point, our

1 the different Master recommendations.

2 THE COURT: Well, in stepping away from a few of
3 these trees we have been discussing and doing the forest
4 again, I still don't have any real understanding of when the
5 County expects that it will give us a fair response to some of
6 these recommendations; not just a litigation response but a
7 business response of -- and more what I would call stewardship
8 response of, you know, this makes sense to us; this doesn't.
9 This is something we could implement now that makes sense to
10 us; this is something that makes sense to us, but we have to
11 go through a process to implement it, and here's our plan to
12 engage that process.

13 I don't think that's an unfair expectation of the Court
14 or your opponents in this case that you would engage in that
15 type of dialogue at the Commission level in order to show that
16 we don't need a receiver because we can manage our own
17 affairs.

18 And I don't have a record of -- I don't have a record of
19 specific things that have been said or done; I'm concerned
20 that we're building a record of silence and non-engagement.

21 MR. DARBY: Your Honor --

22 THE COURT: Now, part of that I might know
23 extra-judicially, and I'm not going to consider that at any
24 hearing, I can assure you of that. But while we're on the
25 issue of pointing everybody in the right direction to avoid a

1 show-down, it seems to me that as you build this record -- and
2 I'm not asking for a response now. It may be in your best
3 interest not to give me a response now.

4 It's time to engage. It's time for your clients to get
5 their hands around this. And, look, they have a
6 responsibility that I don't have right now. I understand
7 that. I'm not trying to -- I'm a big believer in federalism
8 principles; that we don't need the Federal Government stepping
9 in and doing things just arbitrarily and invading a separate
10 sovereign.

11 Now, the case law on receivers has built that into the
12 quotient, and that's why there's a burden of proof placed upon
13 those who seek that remedy, and there's certain specific
14 things they have to show in order to gain that remedy. And
15 that's why there's defenses that are available to the County.

16 I don't approach this situation very lightly at all. In
17 fact, I'm very concerned about it. But what I want to do is
18 make sure you understand what I'm expecting in order for you
19 to be able to come in and show that they are not entitled to
20 the remedy because your client doesn't need a receiver; it's
21 doing what is necessary to engage this process.

22 Does that make sense?

23 MR. DARBY: Yes, Your Honor. We fully understand
24 our charge under your Court's prior Order as further explained
25 to us.

1 even shooting the parties. But I'm just saying look, we have
2 got a tremendously complex problem to work our way through,
3 and it's not going to happen unless we get the best efforts
4 and cooperation, not just from folks getting paid the hourly
5 rates but from the folks who have the opportunity to make a
6 difference on both sides. Okay? And some third parties who
7 might be listening out there.

8 All right? If there's nothing else, I'm going to
9 conclude the hearing and again express my thanks to all of you
10 for your hard work.

11 MR. DARBY: Thank you, Your Honor.

12 THE COURT: We'll be adjourned.

13 (Proceedings concluded.)

14

15 C E R T I F I C A T E

16

17

18 I certify that the foregoing is a correct
19 transcript from the record of proceedings in the
20 above-entitled matter.

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24 _____
Anita M. McCorvey, RMR

25 Official Federal Court Reporter

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION

THE BANK OF NEW YORK MELLON,)	
<i>as trustees for Sewer Revenue</i>)	
<i>Refunding Warrants Series; Sewer</i>	)	Case No. 2:08-cv-01703-RDP
<i>Revenue Capital Improvement</i>	)	Birmingham, Alabama
<i>Warrants Series, et al.</i>)	
	)	June 1, 2009
PLAINTIFFS,	)	10:15 a.m.
)	
VS.)	
)	
JEFFERSON COUNTY, ALABAMA, et al.))	
)	
DEFENDANTS.)	
)	
VS.)	
)	
WILLIAM BELL, et al.)	
)	
COUNTER-CLAIMANTS.)	

* * * * *
TRANSCRIPT OF HEARING IN THE ABOVE CASE
HELD BEFORE THE HONORABLE R. DAVID PROCTOR
UNITED STATES DISTRICT JUDGE

APPEARANCES :

FOR THE TRUSTEES:	Larry B. Childs, Esq. Henry E. Simpson, Esq. Gerald Mace, Esq. Brian Malcom, Esq.
FOR FINANCIAL GUARANTY INSURANCE COMPANY:	Laurence J. McDuff, Esq. Hovey S. Dabney, Esq.
FOR JEFFERSON COUNTY, ALABAMA:	Joseph B. Mays, Jr., Esq. Dylan C. Black, Esq. J. Patrick Darby, Esq. Kevin C. Newsom, Esq.
COURT REPORTER:	Anita M. McCorvey, RMR Hugo Black Courthouse 1729 5th Avenue N., Ste 325 Birmingham, AL 35203

1 got to work my way through exactly what that means in this
2 context, but --

3 COMMISSIONER BELL: And it seems to me -- and maybe
4 I shouldn't say this, but I think that the other side is just
5 looking for a pyrrhic victory that has no substance in reality
6 to the operation of the system. They just want a receiver to
7 say we got a receiver. But if the receiver does not have the
8 power to raise rates, I don't know how much more blood you can
9 squeeze out of this turnip. If they think just having a
10 receiver to run the system is going to give them the economic
11 leverage that they need to recoup whatever monies they think
12 they deserve, I just don't see it.

13 THE COURT: Well, I think they are also suggesting
14 that a receiver might wake a few people in Montgomery up too.
15 I don't know if that's true or not. That was certainly the
16 implication of some testimony I heard earlier.

17 COMMISSIONER BELL: Yes, Mr. Bloom, yes.

18 THE COURT: Let me mention a dirty word to y'all.
19 Rates. And raising rates. As I understand it, we're 3-2 on
20 virtually every issue as it relates to the sewer system other
21 than this one. We're 5-0 on one factor. We really don't want
22 to raise rates a whole lot right now. Fair? To just put
23 those cards on the table and say that's a fair
24 characterization of where we are right now?

25 COMMISSIONER HUMPHRYES: Absolutely.

1 COMMISSIONER CARNs: Yes.

2 THE COURT: Okay. Do any of you have any expertise
3 in determining what a reasonable rate is? I know you get an
4 earful about it from your constituents, but I'm talking about
5 expertise in determining what a reasonable rate is.

6 COMMISSIONER FINE-COLLINS: I don't have the
7 expertise, but I know that we're approaching Atlanta's rates
8 for their sewer fees, and that their per capita income, the
9 median income, is far above ours. We've talked about this
10 before.

11 THE COURT: Right.

12 COMMISSIONER FINE-COLLINS: But I think it's
13 unrealistic of us to sit here and say we don't want to raise
14 sewer rates, but we want support to try to straighten this out
15 by the means that are available to us.

16 So, you know, I'm against raising the rates, but I'm also
17 for asking that we be allowed to use that existing one cent
18 sales tax to come up with a way to fix this. So I think --
19 not to say that I'm being unrealistic when I say that. We
20 have a way that we can avoid this.

21 THE COURT: Well, and again, the indenture probably
22 never contemplated we would be in this position because if
23 those who loaned you the money ever thought we would be in
24 this position, they wouldn't have given you an indenture in
25 the first place, right?

1 emotions take over for logic and legal arguments. All right.
2 And I do appreciate all the hard work and good work the
3 lawyers on both sides have done. And we'll be adjourned.

4 MR. MAYS: Thank you, Your Honor.

5 (Proceedings concluded.)
6

7 C E R T I F I C A T E
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12 I certify that the foregoing is a correct
13 transcript from the record of proceedings in the
14 above-entitled matter.
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18 _____
19 Anita M. McCorvey, RMR
20 Official Federal Court Reporter
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Jefferson County Discussion
10-15-09
Bill, Rocky, Howard, Peiffer



- Interest revenue is currently listed in miscellaneous revenue
 - It should be pulled out and have its own line item
 - If there are around \$250 million of bond proceeds sitting around, why is this only \$1 million.
 - If it is on cash fund basis only, we need to look at the projected fund balances
 - We might need to get an update regarding the arbitrage situation
- Debt repayment scenario and Financial Plan discussion
 - It seems like a 20% increase would be reasonable
 - How high would this make rates?
 - We're currently around \$60 per home
 - This would have to be explained because we have previously stated that the rate is already on the upper limit of reasonability
 - Would it be possible to restructure the debt if we raise rates 20% on Jan 1, 2010, and then raise 3.5% annually?
 - Currently, with no rate increase, \$106 million is available for debt service
 - On a 30year 6%interest \$106million pmt, Jefferson could handle \$1.4 billion in debt
- Atlanta's rates could be justified as the upper limit of rates
 - Atlanta currently charges
 - Base Charge=\$5.21
 - 0-3CCF=\$7.73/CCF
 - 4-6CCF=\$10.83/CCF
 - >6CCF=\$12.45/CCF
 - Homeland Security Charge = \$.15/CCF (combined sewer and water fee)
 - Charge for 10CCF = \$110.69 (excluding homeland security fee)
- Cost of Service -- Howard
 - Surcharges for BOD, FOG, Septage, TSS need to be more than doubled to make up for the COS
 - Would taking a more in-depth look at the complete asset data give us a better judgment of cost allocations?
 - We need to fill in holes on FOG and TP
 - I&I is represented as more than 100% of billed flows
 - Billed is around 22million while total treated is around 50million
 - This does not sound reasonable, especially after they issued \$2 billion in debt to support the sewer system
 - Make sure these figures are right; do a check on the conversions and make sure everything is in millions of gallons
 - See if we can locate a historical data set on mass balances for a better understanding if this is correct
- Agenda for meeting

RFC_0076196

- COS – goes first b/c it is more straightforward
- Financial Plan – judgment calls involved which will require deliberations

RFC_0076197

**IN THE UNITED STATES BANKRUPTCY COURT
FOR THE NORTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION**

In re:)	
)	
JEFFERSON COUNTY, ALABAMA,	)	Case No. 11-05736-TBB
a political subdivision of the State of)	
Alabama,	)	Chapter 9
)	
Debtor.)	

**THIRD PERIODIC STATUS REPORT
CONCERNING THE SEWER RATEMAKING PROCESS**

Pursuant to the *Interim Order on Motion to Lift or Condition the Automatic Stay Filed by Financial Guaranty Insurance Company* [Docket No. 967] entered May 7, 2012 (the “Interim Order”), Jefferson County, Alabama (the “County”), the debtor in the above-captioned chapter 9 case, respectfully submits this Third Periodic Status Report Concerning the Sewer Ratemaking Process (the “Status Report”).¹

1. The Third Public Hearing

On August 20, 2012, in the John L. Carroll Moot Courtroom at Samford University’s Cumberland School of Law, the Jefferson County Commission (the “Commission”) held the third of several contemplated public hearings regarding sewer rates. The County published official notice of the hearing in the August 11, 2012 edition of the *Alabama Messenger*, at the County Courthouse, in several editions of the *Birmingham News*, and by docket notice in this bankruptcy case, *see Notice of Third Sewer Rate Hearing* [Docket No. 1229].

¹ The County’s *First Periodic Status Report Concerning the Sewer Ratemaking Process* [Docket No. 1070] (the “First Report”) was filed June 18, 2012. The County’s *Second Periodic Status Report Concerning the Sewer Ratemaking Process* [Docket No. 1190] (the “Second Report”) was filed August 2, 2012. The First and Second Reports are available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab.

In his opening remarks, Commission President David Carrington explained that he and Commissioners Brown, Bowman, Knight and Stephens have “found this process to be very valuable, . . . both because [of] the testimony we have heard from the invited witnesses and because of the citizen comments.” Tr. at 2:5-9.² Commissioner Carrington also extended the Commission’s thanks to John Carroll, Dean of the Cumberland School of Law and former United States Magistrate Judge, who graciously volunteered to moderate the first three public sewer hearings. *Id.* at 2:12-3:1.

Following these opening remarks, Lance LeFleur, Director of the Alabama Department of Environmental Management (“ADEM”), testified. Mr. LeFleur began by explaining ADEM’s role, mission and relationship with the federal Environmental Protection Agency (“EPA”). *Id.* at 8:14-9:19; *see also id.* at 14:3-15:17 (relationship of ADEM and EPA in connection with setting Total Maximum Daily Load levels for certain substances). Mr. LeFleur explained that under the federal Clean Water Act, 33 U.S.C. §§ 1251, *et seq.*, a treatment facility is prohibited from discharging any wastewater except in strict compliance with that facility’s National Pollutant Discharge Elimination System (“NPDES”) permit. Tr. at 9:19-10:4.

The County’s sewer system has nine NPDES permits – one for each wastewater treatment plant. *Id.* at 10:4-7. “These permits include specific and detailed requirements addressing discharge limits, monitoring, recordkeeping, and reporting, and notification.” *Id.* at 10:7-10. If a particular facility is not in compliance with its NPDES permit, each and every discharge of wastewater from that facility is a violation of the Clean Water Act, with potentially serious consequences. *Id.* at 10:11-20. Accordingly, Mr. LeFleur advised the Commission that

² A complete transcript of the August 20, 2012 sewer rate hearing is attached hereto as Exhibit A. The transcript and this report are also available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab.

“resources spent by the County to comply with [its nine] NPDES permits are a wise and prudent investment.” *Id.* at 10:21-23.

Mr. LeFleur testified that “the County has done a good job with its compliance efforts,” and he praised “the professionals who operate the County sewer system” for having “done an excellent job” and for their “cooperative spirit and dedicated efforts” in working with ADEM. *Id.* at 11:2-14. He cautioned, however, that “NPDES permits are not static,” *id.* at 11:22, and that “the renewal permits ADEM anticipates issuing in the near future for two of the County’s treatment plants . . . will contain stricter limitations on the amount of total phosphorous, or TP, present in the treated wastewater discharge[d] by these two plants.” *Id.* at 13:1-7. These wastewater treatment plants discharge into the Cahaba River, which has been determined to be “impaired with regard to [phosphorous].” *Id.* at 15:22. That impairment – and the strict new phosphorus regulations designed to correct it – “has profound and far-reaching implications for the citizens of Jefferson County.” *Id.* at 16:8-10.

Specifically, Mr. LeFleur explained that meeting the “new [phosphorus] target will not be easy nor will it be cheap.” *Id.* at 16:19-20. That is the case even though ADEM has phased in the new target “over the *maximum time period available.*” *Id.* at 16:11-14 (emphasis added). Compliance will cost approximately \$150 million, *id.* at 16:21-17:4, and Mr. LeFleur warned that even after that substantial outlay, “the Jefferson County sewer system can anticipate that significant additional expenditures will be necessary to ensure compliance with the increasingly stringent requirements of NPDES permits.” *Id.* at 17:7-12.

When Mr. LeFleur’s testimony concluded, Dean Carroll noted that no members of the public had signed up to comment. *Id.* at 18:16-23. Accordingly, the third public hearing was adjourned.

2. August 20, 2012 Submission

On the same date as the third public hearing, an ad hoc group of creditors (the “GLC Group”) stating that they hold approximately \$700 million of sewer system debt provided a detailed, 36-page submission (the “GLC Submission”) for the Commission’s consideration as part of the rate-setting process.³ The GLC Submission compares Jefferson County’s system to 28 other sewer systems also operating under EPA consent decrees, *see* GLC Submission at 9 & App’x A; including by miles of sewer pipe, *id.* at 12 & 14; number of customers, *id.* at 13-14; operating expenses by customer, *id.* at 15; sewer fees as a percentage of median income, *id.* at 17 & 19; property tax as a percentage of median income, *id.* at 18-19; and projected sewer fee increases for 2013-2015, *id.* at 21-22.

Additionally, among other topics, the GLC Group discusses:

- The fixed nature of most sewer costs and the consequence that a smaller base of customers will shoulder higher per-account costs as compared to a larger customer base, *id.* at 4 & 11;
- The comparability of the sewer rate increases contemplated as part of a draft September 2011 settlement term sheet to average projected increases of comparable sewer systems operating under EPA consent decrees, *id.* at 4;
- Today’s historically low interest rates, *id.* at 5-6; *see also id.* at 7 (overview of municipal financing market); and the County’s potential ability to access such rates through legislative measures (including the creation of a GUSC and the backing of a State moral obligation pledge), *id.* at 5 & 32-33; and

³ A copy of the GLC Submission is attached hereto as Exhibit B, and is also available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab.

- The legality and desirability of requiring mandatory hook-ups for new construction within proximity to existing sewer lines, *id.* at 31 (citing ALA. CODE § 11-3-11(a)(15)).

The GLC Group further notes that, according to the 2009 Special Master’s Report, “[s]ewer fees for Jefferson County currently represent 96% of total [system] funding,” whereas other systems under EPA consent decrees generate only 93% of their revenue from sewer fees. GLC Submission at 24. Accordingly, the GLC Group recommends that the County consider additional revenue generation from other sources, including clean water charges for septic system owners and potential revenue enhancements outlined in the 2009 Special Master’s Report. *Id.*

3. August 31, 2012 Submission

On August 31, 2012, the Indenture Trustee, JPMorgan Chase Bank, N.A., Bank of America, Bank of Nova Scotia, Société Générale, Bank of New York Mellon, State Street Bank and Trust Company, Lloyds TSB Bank plc, Assured Guaranty Municipal Corp. and Syncora Guarantee Inc. (collectively, the “Responding Creditors”) submitted a 4-page letter (the “August 31 Letter”) with 1,112 pages of exhibits (collectively with the August 31 Letter, the “August 31 Submission”) for the Commission’s consideration as part of the rate-setting process.⁴

The August 31 Letter states that “the County is both obligated and able to raise rates to a level sufficient to pay all of the County’s sewer obligations in full.” Aug. 31 Letter at 1. It

⁴ A copy of the August 31 Letter is attached hereto as Exhibit C. The complete August 31 Submission (including the August 31 Letter) is available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab. The August 31 Letter indicates that it was sent on behalf of “the Indenture Trustee and certain of the sewer warrant holders and insurers,” which the August 31 Letter defines as the “Invitees.” The “Invitees,” in turn, are identified in the *Response of Indenture Trustee and the Named Warrant holders and Insurers to Jefferson County’s Invitation to Address the Jefferson County Commission at the Next Sewer Rate Hearing* [Docket No. 1131] (the “Invitation Response”) as the Indenture Trustee, JPMorgan Chase Bank, N.A., Bank of America, Bank of Nova Scotia, Société Générale, Bank of New York Mellon, State Street Bank and Trust Company, Lloyds TSB Bank plc, Assured Guaranty Municipal Corp. and Syncora Guarantee Inc.

“urge[s] the Commission and its consultants to review and consider carefully all relevant information, including the information” comprising the August 31 Submission, *id.* at 2; to wit:

- the Trust Indenture between Jefferson County, Alabama, and AmSouth Bank of Alabama, dated as of February 1, 1997 (the “Indenture”);
- the Invitation Response;
- the Red Oak Consulting Final Technical Report, dated January 31, 2007 (the “Red Oak Report”);
- the Comprehensive Wastewater Cost of Service and Rate Study Report, dated February 3, 2010 (the “Raftelis Report”);
- the BE&K 2003 Final Report (the “BE&K Report”);
- the Paul B. Krebs & Associates Report, dated November 5, 2002 (the “Krebs Report”);
- the Paul B. Krebs & Associates Revenue Analysis, dated March 31, 2003 (the “Krebs Revenue Analysis”);
- an earlier draft of the Krebs Revenue Analysis, dated March 13, 2003 (the “Krebs Draft”);
- a draft expert report from Raftelis Financial Consultants, dated 2008 (the “Raftelis Draft”);
- the Report of the Special Master, dated January 20, 2009 (the “Special Master Report”);
- the Receiver’s First Interim Report on Finances, Operations, and Rates of the Jefferson County Sewer System, dated June 14, 2011 (the “Receiver Report”);
- a Resolution of the Commission, dated December 16, 2008;

- a “chart describing the consultants’, Special Masters’, and Receiver’s rate setting recommendations between 2002 and 2011, as compared to the County’s actual rates during that period” (the “Trustee Comparison Chart”);
- a memorandum opinion (the “Proctor Decision”), dated June 12, 2009, in the case captioned *The Bank of New York Mellon, et al. v. Jefferson County, Alabama, et al.*, Case No. 2:08-cv-01703-RDP (N.D. Ala.) (the “Federal Receivership Case”);
- an order (the “Receiver Order”), dated September 22, 2010, in the case captioned *The Bank of New York Mellon, et al. v. Jefferson County, Alabama, et al.*, Case No. CV-2009-02318 (Ala. Cir. Ct.) (the “State Receivership Case”);
- a draft settlement term sheet dated as of September 14, 2011 (the “September 2011 Term Sheet”);
- excerpts from the transcript of Peiffer Brandt’s May 10, 2010 deposition in the State Receivership Case;
- excerpts from the transcript of Eric Rothstein’s August 23, 2010 deposition in the State Receivership Case;
- a letter from Peiffer Brandt to Patrick Darby, dated March 5, 2009;
- excerpts from the transcript of a hearing held February 25, 2009 in the Federal Receivership Case;
- excerpts from the transcript of a hearing held June 1, 2009 in the Federal Receivership Case; and
- a set of typed notes, dated October 15, 2009.

Aug. 31 Letter at 2-3. The Responding Creditors state that these materials “make[] clear that System Revenues can and should be increased, and that the County has an obligation to do so.” *Id.* at 3.

Additionally, the Responding Creditors state that the August 31 Letter is “being submitted in an effort to correct a number of the County’s current assumptions and conclusions about sewer bills and the impact on System customers.” *Id.* In this regard, the August 31 Letter states that Eric Rothstein (a witness at the second public sewer rate hearing) and Professor Stephanie Rauterkus (a witness at the first public sewer rate hearing) used inaccurate figures when comparing sewer rates in Jefferson County to sewer rates elsewhere. *Id.* at 3-4. Specifically, the Responding Creditors state that Mr. Rothstein “calculated that a monthly bill for a Jefferson County customer would be almost \$63.00 if that customer used 10 ccf of water per month,” whereas “the average water usage for Jefferson County sewer customers is closer to 6 ccf per month, which would result in an average monthly sewer bill closer to \$38.00.” *Id.* at 3. Similarly, the Responding Creditors assert that although Dr. Rauterkus “assumed the average water usage for Jefferson County Sewer customers is approximately 6 ccf per month,” she “then assumed that 6 ccf is the same average monthly usage for the other communities in her comparison” – notwithstanding that other communities may have different levels of water usage. *Id.* at 3-4.

Finally, the August 31 Letter notes that “there may be a number of different rate structures that could be implemented that would allow the County to meet its obligations to the Warrantholders and to its residents,” including “mandatory hook up [requirements], reserve capacity fees, clean water fees, or other non-user fees,” which could reduce “the rate increases needed to achieve the necessary revenue increases” urged by the Responding Creditors. *Id.* at 4.

The August 31 Letter concludes by observing that “a negotiated resolution may also be a way for the County and the Warrantholders to address these matters in the context of a consensual plan of adjustment.” *Id.*

4. Next Steps

The Commission greatly appreciates the contributions to the public hearing process made by the four invited witnesses (Prof. Rauterkus and Messrs. Denard, Rothstein and LeFleur), the 18 concerned citizens and ratepayers who personally appeared over the course of three public hearings, and the key creditor constituencies who offered detailed discussions of the issues and collected and submitted more than 1,000 pages of pertinent materials. As expressed in the County Manager’s personal invitations to assist and participate in this process, “[t]he Commission is committed to proceeding on the basis of the very best information and expertise available, gleaned [through] public hearings at which everyone affected by the sewer system and sewer rates and charges has the opportunity” to be heard. *Notice of Invitations to Address the Jefferson County Commission at the Next Sewer Rate Hearing* [Docket No. 1090] Exs. A-K at 1. By providing their considered testimony, commentary and evidence, the distinguished witnesses, public, and creditors have greatly assisted the Commission in undertaking this important task.

All of the public hearing transcripts, witness presentations, and materials submitted by interested parties are now being assembled into a single complete, official record (the “Record”), which will form the basis on which the Commission will act. As noted previously, this procedural safeguard is intended to ensure that the rate-setting process is open and transparent, and that the basis on which the Commission acts is clearly articulated and not open to question.⁵

⁵ See generally First Report at 6 (“[T]he Commission is committed to ensuring that whatever result it reaches is supported by substantial evidence, and is not arbitrary or discriminatory. Thus, Commission will examine the relevant data and articulate a satisfactory explanation for its action, including a rational connection between the facts
(footnote continued on next page)

The Commission is guided in this regard by analogous principles set out in the Alabama Administrative Procedure Act, ALA. CODE §§ 41-22-1, *et seq.* (the “APA”), including the fundamental belief that proper procedures lead to better substantive results. *E.g.*, ALA. CODE § 41-22-2(c) (“[The APA] is not meant to alter the substantive rights of any person or agency. Its impact is limited to procedural rights with the expectation that better substantive results will be achieved in the everyday conduct of state government by improving the process by which those results are attained.”).

The Commission – in consultation with the County’s experts and professionals – is now considering the Record and applicable law, and will consider an amendment to the *Jefferson County Sewer Use/Pretreatment Ordinance* adopted May 11, 1982, as amended through March 31, 2009 (the “Sewer Use and Pretreatment Ordinance”).⁶ The proposed amendment will be released, considered and acted upon in accordance with all applicable rules and practices of order and procedure, including the requirement in section 6(a) of Act 619, 1949 Ala. Laws 949, *et seq.* (approved Sept. 19, 1949), of a “public hearing or hearings” held by the Commission “at least seven days after . . . published notice” of the proposal. Notice will include docket notice in this case.

found and the choice made. The record being developed at the public hearings will ensure that the Commission does not entirely fail to consider an important aspect of the problem, offer an explanation for its decision that runs counter to the evidence before it, or rely on any impermissible factors.” (internal quotation marks, citations and alterations omitted); Second Report at 5-6 (reiterating the Commission’s intent to act “on the basis of the testimony, evidence and public comments received during and in connection with [the] public sewer rate hearings”).

⁶ A copy of the Sewer Use and Pretreatment Ordinance is attached hereto as Exhibit D, and is also available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab.

5. Conclusion

The County will file its next Status Report on or before October 28, 2012, consistent with the Interim Order.

Respectfully submitted this 12th day of September, 2012.

By: /s/ Patrick Darby

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Counsel for Jefferson County, Alabama

ENVIRONMENTAL SERVICES DEPARTMENT

JEFFERSON COUNTY
SEWER USE/PRETREATMENT ORDINANCE
ADOPTED MAY 11, 1982
AS AMENDED THROUGH MARCH 31, 2009



JEFFERSON COUNTY COMMISSION

Bettye Fine Collins - President
Jim Carns - Environmental Services
William A. Bell, Sr. - Health and Community Services
Bobby G. Humphries - Roads and Transportation
Shelia Smoot - Information Technology

**JEFFERSON COUNTY
SEWER USE/PRETREATMENT ORDINANCE
ADOPTED MAY 11, 1982
AS AMENDED THROUGH MARCH 31, 2009**

This document is provided as a convenience to the public. The official ordinance and amendments thereto are contained in the office of the Minute Clerk of Jefferson County in Minute Book 61, pages 237-264, Minute Book 63, pages 203-204, Minute Book 65, page 162, Minute Book 65, page 195, Minute Book 69, pages 363-364, Minute Book 72, pages 79-81, Minute Book 97, pages 214 – 216, Minute Book 109, pages 282-284, Bessemer Minute Book 6, pages 256-260, Minute Book 123, pages 343-344, Minute Book 126, page 467, Minute Book 132, pages 202-204, Minute Book 140, page 149, Minute Book 144, pages 349-353, and Minute Book 157, pages 577-578, with additional amendments adjusting the User Charges on January 1, 2003 and January 1, 2004. In the event of a discrepancy between any words or figures contained in this document and those contained in the official minutes of the Jefferson County Commission, the words and figures reflected in the official minutes shall govern. Due to the fact that the ordinance is frequently amended, users of this document are specifically cautioned not to rely on the exact wording or figures contained herein as a basis for expenditures or irrevocable decisions without first verifying such words or figures in the office of the Minute Clerk, Jefferson County, Alabama.

**JEFFERSON COUNTY SEWER USE/PRETREATMENT
ORDINANCE**

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ARTICLE I - GENERAL PROVISIONS

A. PURPOSE AND POLICY

This Ordinance sets forth uniform requirements for all users of the wastewater collection and treatment system for Jefferson County, Alabama, and enables the County to comply with all applicable State and Federal laws required by the Clean Water Act of 1977 and the general Pretreatment Regulations (40 CFR, Part 403). It should be noted that the Jefferson County Government for purposes of this Ordinance will not be considered a user and for that reason is exempted from the provisions of this Ordinance; however, the County will provide necessary pretreatment at its own facilities.

The objectives of this Ordinance are:

- (a) to prevent the introduction of pollutants into the County Wastewater system which will interfere with the operation of the system or contaminate the resulting sludge;
- (b) to prevent the introduction of pollutants into the County Wastewater system which will pass through the system, inadequately treated, into receiving waters or the atmosphere or otherwise be incompatible with the system;
- (c) to improve the opportunity to recycle and reclaim wastewaters and sludge from the system; and
- (d) to provide for equitable distribution of the cost of the County wastewater system.

This ordinance provides for the regulation of all contributors to the County wastewater system through the issuance of permits to certain non-domestic users and through enforcement of general requirements for the other users, authorizes monitoring and compliance activities, requires user reporting, and provides for the setting of fees for the equitable distribution of costs resulting from the program established herein.

This ordinance shall apply to Jefferson County and to persons outside the County who are, by contract or agreement with the County, users of the County sewer system. This ordinance is a revision to the Sewer Use Ordinance adopted January 24, 1977. Except as otherwise provided herein, Jefferson County shall administer, implement, and enforce the provisions of this ordinance.

B. DEFINITIONS

1. "ADEM" shall mean Alabama Department of Environmental Management or its duly authorized deputy, agent, or representative.
2. "Act", "The Act", or "CWA" shall mean the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, U.S.C. 1251, ET. Seq.

3. "Approval Authority" shall mean the Alabama Department of Environmental Management.
4. "Authorized Representative of an Industrial User" shall mean any one of the following: (1) A principal executive officer of at least the level of Vice-President, if the industrial user is a corporation; (2) A general partner or proprietor if the industrial user is a partner or proprietorship, respectively; (3) A duly authorized representative of the individual above if such representative is responsible for the overall operation of the facilities from which the discharge originates.
5. "BOD" (denoting biochemical oxygen demand), shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at 20 degrees C., expressed in milligrams per liter by weight. BOD shall be determined by standard methods as hereinafter defined.
6. "Categorical Standards" shall mean the National Categorical Pretreatment Standards or Pretreatment Standard.
7. "CFR" denotes Code of Federal Regulations.
8. "COD" denotes Chemical Oxygen Demand.
9. "Composite Sample" shall mean the makeup of a number of individual samples, so taken as to represent the nature of wastewater or industrial wastes.
10. "Constituents" shall mean the combination of particles, chemicals or conditions, which exist in the wastewater.
11. "Control Authority" shall refer to ADEM.
12. "Cooling Water" shall mean the water discharged from any use such as air conditioning, cooling or refrigeration, or to which the only pollutant added is heat.
13. "County" shall mean Jefferson County Commission or its duly authorized agent, deputy or representative.
14. "Direct Discharge" shall mean the discharge of treated or untreated wastewater directly to the waters of the State of Alabama.
15. "Effluent" shall mean the discharge of flow from an industry or a treatment plant facility.
16. "EPA" shall mean the U.S. Environmental Protection Agency, or where appropriate, the term may also be used as a designation for the Regional Administrator or other duly authorized official of said agency.

17. "Flammable" shall be defined by existing fire regulations covering the County.
18. "Grab Sample" shall mean a sample, which is taken from a waste stream on a one-time basis with no regard to the flow in the waste stream.
19. "Holding Tank Waste" shall mean any waste from holding tanks such as vessels, campers, chemical toilets, trailers, septic tanks, and vacuum pump trucks.
20. "Impact Connection Fee" shall mean the charge assessed against the sewer customer within or without the County that are connected to, or have access to, the County sewage system.
21. "Indirect Discharge" shall mean the discharge or introduction of non-domestic pollutants from any source regulated under Section 307(b) or (c) of the Act, into the sewer system (including holding tank waste discharged into the system).
22. "Industrial User" shall mean any industry producing liquid waste, discharging either with or without pretreatment, into the County sewer system.
23. "Industrial Plant Site" shall mean a parcel of land occupied by a facility, which discharges industrial wastes.
24. "Industrial Sewer Connection Application" shall mean the application required to be filed by all industrial contributors or potential industrial contributors who intend to connect to the sewer system. This request shall be on forms provided by the County, which specify the quantity, strengths, and any special qualities of their industrial waste.
25. "Industrial Waste Surcharge" shall mean the additional service charge assessed against industries in the County service area whose waste characteristics exceed those of normal wastewater as defined in the context of this ordinance.
26. "Influent" shall mean the wastewaters arriving at a County wastewater treatment plant for treatment.
27. "Interference" shall mean the inhibition or disruption of the County sewer system's treatment processes, operations, or sewer system, which contributed to a violation of any requirements of its NPDES permit. The term includes prevention of sewage sludge use or disposal by the County in accordance with Section 405 of the ACT, or any criteria, guidelines or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Water Act, the Toxic Substances Control Act, or more stringent State criteria (including those contained in any State sludge management regulation pursuant to title IV or SWDA) applicable to the method of disposal or use employed by the County.
28. "l" denotes liter.

29. "MBAS" denotes methylene-blue-active substance.
30. "Metered Water" shall mean the quantity of all sources of water, including water from wells, consumed by the sewer customer (see Article VI).
31. "mg/l" denotes milligrams per liter and shall mean ratio by weight.
32. "National Pollution Discharge Elimination System Permit" or "NPDES Permit" shall mean a permit issued to the County pursuant to Section 402 of the Act (33 U.S.C. 1342).
33. "National Pretreatment Standard" shall mean any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and (c) of the ACT which applies to industrial users.
34. "Natural Outlet" shall mean any outlet used to dispose of liquid waste, which ultimately flows or leads into a watercourse, pond, ditch, lake, or other body of surface or ground water.
35. The publication of proposed regulations prescribing a Section 307(c) categorical pretreatment standard which will be applicable to such source, if such standard is thereafter promulgated within 120 days of proposal in the Federal Register. Where the Standard is promulgated later than 120 days after proposal, a New Source shall mean any source, the construction of which is commenced after the date of promulgation of the standard.
36. "pH" shall mean the logarithm of the reciprocal of the concentration of the hydrogen ion. pH shall be determined by standard methods as hereinafter defined.
37. "Person" or Owner" shall mean any individual, firm, company, joint stock company, association, society, corporation, group, partnership, co-partnership, trust, estate, governmental or legal entity, or their assigned representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by context.
38. "Pollutant" shall mean any dredged spoil, solid waste, incinerator, residue, sewage garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.
39. "Pretreatment" shall mean the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in a wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into the County sewer system. The reduction or alteration can be obtained by physical, chemical, or biological processes, process changes, or other means except as prohibited by 40 CFR Section 403.6(d).

40. "Pretreatment Requirement" shall mean any substantive or procedural requirement related to pretreatment, other than a National Pretreatment Standard imposed on an industrial user.
41. "Receiving Waters" shall mean those waters into which treated effluents are discharged.
42. "Residential or Domestic User" shall mean a premise or person who discharges wastewater to the County sewers, that is of a volume and strength typical for residences and further for billing purposes, is defined as a dwelling place or place of residence.
43. "SWDA" denotes the Solid Waste Disposal Act, 42 U.S.C. 6901, ET. SEQ.
44. "Sanitary Sewer" shall mean a sewer, which carries wastewater, and from which storm, surface, and ground waters are intended to be excluded.
45. "Sewer System" or "County Sewer System" shall mean a treatment works as defined by Section 212 of the Act (33 U.S.C. 1292) which is owned by the County. This definition includes any sewer that conveys wastewater to such treatment works, but does not include pipes, sewer, or other conveyances not connected to a facility providing treatment. The term shall also mean Jefferson County, which has jurisdiction over the indirect discharges to and the discharge from such a treatment works.
46. "Sewer" shall mean a pipe or conduit for carrying wastewater.
47. "Shall" is mandatory; "may" is permissive.
48. "Standard Industrial Classification" or "SIC" shall mean the classification pursuant to the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget, 1972.
49. "Standard Methods" shall mean those sampling and analysis procedures established by and in accordance with EPA pursuant to Section 304(g) of the Act and contained in 40 CFR, Part 136, as amended or the "Standard Methods for the Examination of Water and Sewer" as prepared, approved, and published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation. In cases where procedures vary, the EPA methodologies shall supercede.
50. "Standard Strength" shall mean wastes of any origin having a content of 300 mg/l or less of 5-day, 20 degrees C. BOD, and/or containing 300 mg/l or less of suspended solids, and having no prohibited qualities for sanitary sewer system admission.

51. "S.I.D. Permit" shall mean a State Indirect Discharge permit issued by the ADEM. Such permits shall be issued to dischargers of non-domestic pollutants from any source, including but not limited to those regulated under Section 307(b) or (c) of the Act, to the County Sewer system.
52. "Storm Sewer" or "Storm Drain" shall mean a sewer which carries storm and surface waters and drainage, but excludes wastewater and polluted industrial wastes.
53. "Suspended Solids" shall mean solids that either float on the surface, or are in suspension in water, wastewater, or liquid as defined by standard methods.
54. "TOC" shall mean total organic carbon as determined by standard methods.
55. "TSS" shall mean total suspended solids.
56. "Total Solids" shall mean total weight mg/l or all solids: dissolved, undissolved, organic, or inorganic.
57. "Toxic" shall mean constituents of wastes, which adversely affect the organisms or other processes involved in wastewater treatment.
58. "County Treatment Plant" or "County Plant" shall mean that portion of the County's sewer system designed to provide treatment to wastewater.
59. "U.S.C." denotes Unites States Code.
60. "User" shall mean any individual or entity, including municipalities who contribute, causes, or permits the contribution of wastewater into the County's sewer system.
61. "Watercourse" shall mean a channel in which a flow of water occurs, either continuously or intermittently.
62. "Wastewater" shall mean any solids, liquids, gas, or radiological substance originating from residences, business buildings, institutions, and industrial establishments together with any ground water, surface water, and storm water that may be present, whether treated or untreated, which is contributed into or permitted to enter the County's sewer system.
63. "Waters of the State of Alabama" shall mean any water, surface or underground, within the boundaries of the State.
64. "All contributors" denotes anyone contributing wastewater to the collection and treatment systems of Jefferson County.

ARTICLE II - DISCHARGE PROHIBITIONS

A. GENERAL DISCHARGE PROHIBITIONS

No user shall contribute or cause to be contributed, directly, or indirectly, any pollutant or wastewater which will interfere with the operation or performance of the County's sewer system. These general prohibitions apply to all such users of the sewer system whether or not the user is subject to National Categorical Pretreatment Standards or any other National, State, or Local Pretreatment Standards or Requirements. A user may not contribute the following substances to the sewer system:

1. Any liquids, solids, or gases which by reason of their nature or quality are, or may be, sufficient alone or by interaction with other substances to cause fire or explosion or be injurious in any way to the sewer system or to the operation of the sewer system. At no time shall two successive readings on an explosive hazard meter, at the point of discharge into the system (or at any point in the system) be more than five percent (5%) nor any single reading over ten percent (10%) of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to: alcohols, aldehydes, benzene, bromates, carbides, chlorates, commercial solvents, ethers, fuel oil, gasoline, any hydrocarbon derivatives, hydrides, kerosene, ketones, mineral spirits, motor oils, naphtha, perchlorates, peroxides, sulfides, toluene, xylene and any other substances which the County, the State, or EPA has notified the User is a fire hazard to the system.
2. Any pollutants which will cause corrosive structural damage to the sewer system (in no case with a pH less than 5.0 or higher than 9.0) or wastewater having other corrosive property capable of causing damage or hazard to structures, equipment, and/or personnel of the sewer system.
3. Solid or viscous substances in amounts which may cause obstruction to the flow in a sewer or other interference with the operation of the sewer system such as, but not limited to: garbage with particles greater than 1/2 inch, ashes, cinders, animal guts or tissues, paunch, manure, offal, bones, hair, hides or fleshings, entrails, whole bloods, beer or distillery slops, milk residue, ice cream, sugar syrups, feathers, sand, lime residues, stone or marble dust, metal, glass, straw, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, fiberglass, paint or ink residues, gas, tar, asphalt residues, chemical residues, residues from refining or processing of fuel or lubricating facilities, cannery waste, mud, glass grinding waste, polishing waste; any water or waste which contains more than 150 mg/L of mineral oil or grease, or 150 mg/L of animal or vegetable fats, oils, or grease; or any water or waste which contains a substance that will solidify or become viscous at temperatures between 32 degrees and 90 degrees F.
4. Any pollutants, (BOD, etc.) released at a flow and/or pollutant concentration which will cause interference to the sewage treatment process (see Section F).

5. Any wastewater having a temperature, which will inhibit biological activity in the sewer system resulting in interference, but in no case wastewater with a temperature at the introduction into wastewater treatment plant which exceeds 40 degrees C (104 degrees F). No user shall discharge into any sewer line or appurtenance of the sewer system wastewater with a temperature exceeding 65.5 degrees C (150 degrees F). More stringent limitations may be required if the POTW processes are adversely affected by lesser temperatures.
6. Any wastewater containing toxic pollutants with either singly or by interaction with other pollutants, would injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters of the sewer system, or to exceed the limitations set forth in a Categorical Pretreatment Standard. A toxic pollutant shall include but not be limited to any pollutant identified pursuant to Section 307(a) of the Act.
7. Any noxious or malodorous liquids, gases, or solids which whether singularly or by interaction with other wastes are sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for their maintenance and repair.
8. Any substance which may cause the County treatment plant effluent or any other produce of the County treatment plant such as residues, sludge, or scum, to be unsuitable for reclamation and reuse or to interfere with the reclamation process where the County is pursuing a reuse and reclamation program. In no case shall a substance discharged to the County sewer system cause the County to be in non-compliance with sludge use or disposal criteria, guidelines, or regulations developed under Section 405 of the Act; any criteria, guidelines, or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, or State criteria applicable to the sludge management method being used.
9. Any substance, which will cause the County to violate its NPDES and/or State Disposal System Permit or the receiving water quality standards.
10. Any wastewater with color that cannot be removed by the County's wastewater treatment plant.
11. Any liquid or wastewater containing quantities of radioactive waste in excess of presently existing or subsequently accepted limits for drinking water as established by applicable State or Federal regulations.

B. PROHIBITIONS ON STORM DRAINAGE, GROUND WATER AND COOLING WATER

Storm water, ground water, rain water, street drainage, roof top drainage, cooling water of any type, basement drainage, sump pumpings, sub-surface drainage, or yard drainage shall not be discharged through direct or indirect connections to the sewer system.

C. NATIONAL PRETREATMENT STANDARDS

Certain industrial users, (as defined by EPA in the General Pretreatment Regulations published in the June 26, 1978 Federal Register titled Part 403 General Pretreatment Regulations and any revision thereof) are or hereafter shall become subject to National Categorical Pretreatment Standards promulgated by the EPA specifying quantities or concentrations of pollutants or pollutant properties which may be discharged into the sewer system. All industrial users subject to a National Categorical Pretreatment Standard shall comply with all requirements of such standard and shall also comply with any additional or more stringent limitations contained in this Article. Compliance with National Categorical Pretreatment Standards for existing sources subject to such standards or for existing sources which hereafter become subject to such standards shall be within three (3) years following promulgation of the standards unless a shorter compliance time is specified in the standard. Compliance with National Categorical Pretreatment Standards for new sources shall be required upon promulgation of the Standard. Except where expressly authorized by an applicable National Categorical Pretreatment Standard, no industrial user shall increase the use of process water or in any way attempt to dilute a discharge as a partial or complete substitution for adequate treatment to achieve compliance with such standard.

D. FIXED UPPER LIMITS ON WASTEWATER CONSTITUENTS

Following herewith are maximum discharge concentrations for any industrial user of the Jefferson County Sewerage System. The limits are subject to change by the Environmental Protection Agency, Alabama Department of Environmental Management, and Jefferson County. Such change may occur thorough changes imposed by National Categorical Pretreatment Standards or by Jefferson County's determination that interference exists in any of the County's wastewater treatment plants by reason of any limit set forth herein or by case-specific considerations.

**PPER DISCHARGE LIMITS
FOR INDUSTRIAL USERS
INTO COUNTY WWTPS**

**SUGGESTED
DESIGN
CRITERIA**

PARAMETER	<u>DAILY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>DAILY AVERAGE</u>	<u>DAILY MAXIMUM</u>
Aluminum, Dissolved	25.0 mg/L	50.0 mg/L	5.0 mg/L	10.0 mg/L
Cadmium, Total	0.3 mg/L	0.3 mg/L	0.1 mg/L	0.2 mg/L
Chromium +6	0.1 mg/L	0.2 mg/L	0.1 mg/L	0.2 mg/L
Chromium, Total	2.5 mg/L	5.0 mg/L	0.5 mg/L	1.0 mg/L
Copper, Total	0.5 mg/L	1.0 mg/L	0.5 mg/L	1.0 mg/L
Cyanide, as CN or HCN	0.5 mg/L	1.0 mg/L	0.1 mg/L	0.2 mg/L
Iron, Total	10.0 mg/L	20.0 mg/L	3.0 mg/L	6.0 mg/L
Lead, Total	0.5 mg/L	0.5 mg/L	0.1 mg/L	0.2 mg/L
Nickel, Total	0.5 mg/L	1.0 mg/L	0.5 mg/L	1.0 mg/L
Silver, Total	0.25 mg/L	0.5 mg/L	0.05 mg/L	0.1 mg/L
Tin, Total	5.0 mg/L	10.0 mg/L	0.1 mg/L	0.2 mg/L
Zinc, Total	1.8 mg/L	3.6 mg/L	0.8 mg/L	1.6 mg/L
Arsenic		0.10 mg/L		
Ammonia		25.0 mg/L		
Barium		1.0 mg/L		
Chlorides		200.0 mg/L		
Detergents ABS (Hard)		*		
Detergents (Soft)		*		
Detergents (Biodegradable)		*		

**PPER DISCHARGE LIMITS
FOR INDUSTRIAL USERS
INTO COUNTY WWTPS**

**SUGGESTED
DESIGN
CRITERIA**

PARAMETER	<u>DAILY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>DAILY AVERAGE</u>	<u>DAILY MAXIMUM</u>
Fluorides		1.50 mg/L		
Radioactivity Gross Beta		1000 Pico curies		
RA 226		3 Pico curies/L		
SR 90		10 Pico curies/L		
Mercury		0.01 mg/L		
Molybdenum		0.10 mg/L		
Phenol		1.00 mg/L		
Phosphate		30.00 mg/L		
Selenium		0.10 mg/L		

* No limits presently determined. If and when these other limitations are determined, they shall be incorporated into this Ordinance by action of the County Commission.

The limits set out above shall control but are subject to change by the Environmental Protection Agency, Alabama Department of Environmental Management, and Jefferson County. Such change may occur through changes imposed by National Categorical Pretreatment Standards or by Jefferson County's determination that an interference exists in any of the County's Wastewater Treatment Plants by reason of any limit set forth herein or by case-specific consideration.

E. STATE REQUIREMENTS

State requirements and limitations on discharges shall apply in any case where they are more stringent than Federal requirements and limitations of those in this ordinance.

F. EXCESSIVE DISCHARGE

No user shall ever increase the use of process water or, in any way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the National Categorical Pretreatment Standards, or in any other pollutant specific limitation developed by the County or State without prior written approval by the County. Where necessary in the opinion of the County, flow equalization facilities may be required to eliminate peak flow concentration conditions, which could overload the sewers or treatment plants. Said equalization units shall have a capacity judged by the County to allow controlled discharge of the flow at such a rate which will eliminate peak flow conditions. Detailed equalization, facility plans, specifications and operating procedures shall be submitted to the County for review and recommendations in a specified format. However, the County shall not approve the submittal for performance.

G. POSSIBLE INHIBITORY DISCHARGES

If any waters or wastes are proposed to be discharged to the sewer system which contain the substances or possess the characteristics either enumerated or not enumerated in the preceding Section of this Article, and which in the judgment of the County and/or the State and Federal agencies having jurisdiction may cause an interference with the sewer system, the sludge, receiving waters, or which may otherwise create a hazard to life or constitute a public nuisance, the County may:

- (1) reject the wastes in accordance with Article III of this Ordinance
- (2) for industries affected by the categorical pretreatment standards, require pretreatment to an acceptable condition for discharge to the public sewers and state a compliance date which in no case shall exceed three (3) years but may be sooner if so stated in the National Categorical Pretreatment Standards
- (3) require control over the quantities and rates of discharge, and/or
- (4) require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges. Such payments shall be as specified in Article VII.

If the County or ADEM requires or permits the pretreatment or equalization of waste flows, the design and installation of the plants and equipment may be reviewed by the County, ADEM, and Federal Agencies having jurisdiction. In any case, the design and installation shall be subject to the requirements of all applicable codes, resolutions, and laws.

H. ACCIDENTAL DISCHARGES

H.1 GENERAL

Each industrial user shall provide protection from accidental discharge or prohibited materials or other substances regulated by this Ordinance. Facilities to prevent accidental discharge or prohibited materials shall be provided and maintained at the owner's or user's own cost and expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the County for review and comment. However, the County's view and comment shall in no way be interpreted as a performance approval of such facilities. All existing industrial users shall complete such a plan by January 1, 1983. No new industrial users who commence this contribution to the sewer system after the effective date of this Ordinance shall be permitted to introduce pollutants into the system until accidental discharge procedures have been reviewed and approved by the County and implemented by the user. Review of such plans and operating procedures shall not relieve the industrial user from the responsibility to modify the user's facility as necessary to meet the requirements of this Ordinance. In the case of an accidental discharge, it is the responsibility of the user to immediately telephone and notify County personnel of the incident by calling the 24 hour Sewer Line Maintenance phone number at (205) 942-0681. The notification shall include: 1) time of discharge, 2) location of discharge, 3) type of waste, 4) concentration and volume, 5) corrective action being taken, 6) company name, 7) contact official, and 8) phone number.

H.2 WRITTEN NOTICE

Within five (5) days following an accidental discharge, the user shall submit to the County and ADEM a detailed written report which shall include: 1) company names, 2) contact official, 3) date, time, and type of water discharged, 4) corrective actions taken at the time of the discharge and degree of success, 5) a determination that the cause of the discharge was of mechanical or human nature, 6) a detailed description of new or modified actions which will be instituted to prevent such an occurrence from happening again, and 7) a timetable for implementing the corrective actions. Such notification shall not relieve the user of any expense, loss, damage or other liability which may be incurred by the County as a result of damage to the sewer system, fish kills, or any other damage to person or property; nor shall such notification relieve the user of any fines, civil penalties, or other liability which may be imposed by this Ordinance or other applicable law.

H.3 NOTICE TO EMPLOYEES

A notice shall be permanently placed on the user's bulletin board or other prominent place advising employees whom to call in the event of a prohibited discharge. Employers shall insure that all employees, who may cause or suffer an occurrence of such a discharge are advised of the emergency notification procedure.

I. HAZARDOUS WASTES

It is a violation of this Ordinance to discharge or cause to discharge any material identified as a hazardous waste by the May 19, 1980 Environmental Protection Agency Hazardous Waste Resolution, Part 261, or any revision thereof. This prohibition extends to all wastes identified in Subpart D regardless of the quantity of hazardous material stored or generated.

J. MISCELLANEOUS

No variances or credit provisions have been established by this Ordinance as the County shall not deviate from the discharge prohibitions contained in this Article.

ARTICLE III - ENFORCEMENT AND ABATEMENT

A. PUBLIC VIOLATION

Discharge of waste in any manner in violation of this Ordinance or of any condition of an S.I.D. permit may be corrected and abated as provided for specifically in this Article or elsewhere in the Ordinance.

B. VIOLATION NOTIFICATION

Whenever the County determines or has reasonable cause to believe that a discharge of wastewater has occurred in violation of the provisions of this Ordinance, an S.I.D. permit, or any other applicable law or regulation, it shall notify the ADEM and user of such violation. Failure of the County to provide notice to the user shall not in any way relieve the user from consequences of a wrongful or illegal discharge.

C. CONCILIATION MEETINGS

The County and ADEM may, but shall not be required to, invite representatives of the user to a conciliatory meeting to discuss the violation and methods of correcting the cause of the violation. Such additional meetings as the County and ADEM may deem advisable may be held to resolve the problem. If the County, ADEM, and user can agree to appropriate remedial and preventative measures, they shall commit such agreement in writing with provisions for a reasonable compliance schedule and the same shall be incorporated as a supplemental condition of the user's S.I.D. permit.

D. SHOW CAUSE HEARING

The ADEM may issue a show cause notice to the user at a specified date and time to show cause why the user's S.I.D. permit should not be modified, suspended, or revoked for causing or suffering violation of this Ordinance, or other applicable law or regulation, or conditions in the S.I.D. permit of the user. If the County seeks to modify the user's S.I.D. permit to establish wastewater characteristic limitations or other control techniques to prevent future violations, it shall notify the user of the general nature of the recommended actions it shall make to the ADEM. The ADEM will act with the authority vested in it by the U.S. Environmental Protection Agency under PL 92-500 and the provisions of the General Pretreatment Regulations published in the June 26, 1978 Federal Register or any revision thereof.

E. REFERRAL TO ATTORNEY GENERAL

At its discretion, or based on the County's recommendation, the ADEM may refer a case to the State of Alabama Attorney General's office. Such an action shall be initiated due to a user's violation of a Categorical Standard or the conditions of the user's S.I.D. permit.

F. INJUNCTIVE RELIEF

The County, or the ADEM upon recommendation by the County, may in the name of Jefferson County, file in Circuit or Chancery Court of Jefferson County, or such other courts as may have jurisdiction, a suite seeking the issuance of an injunction, damages, or other appropriate relief to enforce the provisions of this ordinance or other applicable law or regulation. The ADEM will be primarily concerned with enforcement of the "Categorical Standards" portions of this Ordinance. It will normally be the responsibility of the County to determine when the ADEM will become involved in any enforcement or abatement action.

G. ASSESSMENT OF DAMAGES TO OTHERS

When a discharge of waste causes an obstruction, damage, or any other impairment to the facilities, or any expense of whatever character or nature to the County, the County may assess to the offender the expense incurred by the County. The County may file a claim with the user or any other person causing said damage seeking reimbursement for any and all expenses or damages suffered by the County. If the claim is ignored or denied, the County shall notify its attorney to take such measures as shall be appropriate to recover for any expense or other damages suffered by the County including the costs of collecting such damage.

H. PETITION FOR FEDERAL OR STATE ENFORCEMENT

In addition to other remedies of enforcement provided herein, the County may petition the United States Environmental Protection Agency to exercise such methods or remedies as shall be available to such government entities to seek criminal or civil penalties, injunctive relief, or such other remedies as may be provided by applicable Federal or State laws to insure compliance by industrial users with applicable pretreatment standards, to prevent the introduction of toxic pollutants or other regulated pollutants into the sewer system, or to prevent such other water pollution as may be regulated by State or Federal law.

I. EMERGENCY TERMINATION OF SERVICE

In the event of an actual or threatened discharge to the sewer system of any pollutant which in the opinion of the Commissioner of Environmental Services, the County Engineer, the County Sanitary Engineer, or other designated agents, presents or may present substantial danger to the health or welfare of persons, or causes an interference to the sewer system, the County shall immediately notify the Alabama Department of Environmental Management of the nature of the emergency. The County shall also attempt to notify the Industrial User or other person causing the emergency and request their assistance in abating the same. The County may also temporarily terminate the service of such user or users as are necessary to abate the condition. Such service may be restored by the County at the user's expense as soon as the emergency situation has been abated or corrected.

J. TERMINATION OF SERVICE

The County may disconnect a user from the system when:

- (1) the EPA or ADEM informs the County that the effluent from the wastewater treatment plant is no longer of quality permitted for discharge to a watercourse, and it is found that the user is delivering wastewater to the County's sewer system that cannot be sufficiently treated or requires treatment that is not provided by the County as normal domestic treatment.
- (2) the user:
 - (a) discharged industrial waste or wastewater that is in violation of the S.I.D. permit used;
 - (b) discharges any substance to the sewer defined in Article II as being prohibited;
 - (c) discharges any wastewater at an uncontrolled, variable rate in sufficient quantity to cause an imbalance in the sewer system;
 - (d) fails to pay quarterly or monthly bills for sanitary service when due;
 - (e) repeats a discharge or prohibited constituents to the sewer system.
- (3) If the service is discontinued pursuant to this Section, the County shall:
 - (a) disconnect the user at the user's expense;
 - (b) continue disconnection until such time as the user provides additional pretreatment or other facilities designed to remove the interfering constituents from its wastes. Reconnection shall be at the discretion of the County and at the user's expense.

ARTICLE IV

S.I.D. PERMIT, DISCHARGE REPORTS, AND ADMINISTRATION

A. APPLICABILITY

The provisions of this Article are applicable to primary or significant industrial users, as defined by the ADEM, or any industrial user specified by the County. If, at the time of enactment of this Ordinance, Jefferson County has not consummated a Memorandum Agreement with the Alabama Department of Environmental Management pursuant to Code of Alabama 1975, Section 22-22-9. any permits issued hereunder to industrial users who are subject to or become subject to a "National Pretreatment Standard" as that term is defined in 40 CFR 403.3(i) shall be conditioned upon the Industrial User also complying with all applicable substantive and procedural requirements promulgated by the Environmental Protection Agency and the State of Alabama in regard to the "National Categorical Pretreatment Standards" or any other pollutants identified as "priority pollutants".

B. APPLICATION AND PERMIT REQUIREMENTS FOR INDUSTRIAL USERS

All primary and significant industrial users, as defined by the ADEM, or any industrial user specified by the County, of the sewer system, prior to discharging non-domestic waste into the sewer system shall simultaneously submit an application and engineering report to Jefferson County and the ADEM for the purpose of obtaining an S.I.D. permit. The original and one copy of said package shall be submitted to the ADEM while an additional two (2) copies shall be submitted to Jefferson County. The engineering report shall contain the information specified in Section IV, C., hereof. All original application packages shall also include a site plan, floor plan, mechanical and plumbing plans with sufficient detail to show all sewers and appurtenances in the user's premises by size, location, and elevation; and the user shall submit to the County and ADEM revised plans whenever alterations or additions to the user's premises affect said plans. Any currently connected user discharging waste other than domestic waste who has not heretofore filed such a report shall file same with the County and ADEM within ninety (90) calendar days of receiving notices from the County.

C. REPORT REQUIREMENTS

The report required by Section B. above or other provisions of this Article for all industrial users shall contain in units and terms appropriate for evaluation, the information listed in sub-sections (1) through (7) below. Industrial users subject to National Categorical Pretreatment Standards shall submit to the County and ADEM a report which contains the information listed in sub-section (1) through (10) below within one hundred and eighty (180) calendar days after the promulgation by the Environmental Protection Agency of a National Categorical Pretreatment Standard under Section 307(b) or (c) (33 U.S.C. 1317(b) or (c) of the Act.

Industrial users who are unable to achieve a discharge limit set forth in Article II hereof without improved operation and maintenance procedures or pretreatment shall submit a report which contains the information listed in subparagraph (1) through (10) of this paragraph. As specified therein above, the package shall be certified by a Professional Engineer registered in the State of Alabama and contain all or applicable portions of the following:

- (1) General information including name and affiliation of company, number of employees, product(s) to be manufactured, including rate of production and SIC number(s), hours of operation, and water supply and disposition.
- (2) Location map showing location of manufacturing plant (with section, township, range, latitude and longitude), treatment facilities and drainage, and indicating locations of each discharge point. In case of indirect discharges, location of sewer and point of industry tie-in should be shown.
- (3) Narrative account of manufacturing operation(s) explaining and or defining raw materials, processes and products. Blockline or schematic diagrams indicating points of waste origin and its collection and disposition should be included.
- (4) The average and maximum total flow of each discharge from such Industrial User to the sewer system, in gallons per day.
- (5) The average and maximum of both quantity and quality of the wastewater discharge from each regulated process from such industrial user and identification of any applicable Pretreatment Standards and Requirements. The concentration shall be reported as a maximum or average level as provided for in the applicable Pretreatment Standard. If an equivalent concentration limit has been calculated in accordance with a Pretreatment Standard, this adjusted concentration limit shall also be submitted to the ADEM for approval.

- (6) Description of existing waste treatment facilities including design basis, pretreatment measures, and recovery systems. Means of handling cooling water, storm drainage, and sanitary wastes should be discussed. Containment systems for product storage areas, loading and intermediate, or raw material handling areas, process areas, and other areas with spill potential should be described. Where applicable, the availability of a Spill Prevention Control and Containment (SPCC) Plan should be indicated.
- (7) When treatment sludges are generated, dewatering and handling methods, and location of disposal should be indicated. Quantity and analysis information should also be furnished.
- (8) In the case of new or expanded treatment systems, copies of logs for test borings in the vicinity of the treatment facility of earthen construction should be furnished to facilitate a geologic/hydrologic review.
- (9) A statement reviewed and signed by an authorized representative of the Industrial User indicating whether Pretreatment Standards are met on a consistent basis and, if not, whether additional operation and maintenance procedures or additional pretreatment is required for the Industrial User to meet the Pretreatment Standards and Requirements; and
- (10) If additional pretreatment or operation and maintenance procedures will be required to meet the Pretreatment Standards, then the report shall contain the shortest schedule by which the Industrial User will provide such additional pretreatment. The completion date in this schedule shall not be later than the completion date established for the applicable Pretreatment Standards.

For purposes of this Ordinance, when the context dictates, the phrase "Pretreatment Standard" shall include either a National Categorical Pretreatment Standard or a pretreatment standard imposed as a result of the user's discharging any incompatible waste regulated by Article II hereof. For purposes of this Ordinance the term "Pollutant" shall include any pollutant identified in a National Categorical Pretreatment Standard or any incompatible waste identified in Article II hereof.

D. INCOMPLETE APPLICATIONS

The ADEM will act only on applications that are accompanied by a report, which contains all the applicable information required in Section C above. Persons who have filed incomplete applications will be notified by the County that the application is deficient and the nature of such deficiency. If the deficiency is not corrected within thirty (30) days or within such extended period as allowed by the County, the County shall submit the application for a permit to notify the applicant in writing of such action.

E. EVALUATION OF APPLICATION

Upon receipt of the County's recommendation, the ADEM shall conduct its final evaluation of the completed applications and propose such special permit conditions as it deems advisable. All S.I.D. permits shall be expressly subject to all provisions of this Ordinance and all other applicable laws and regulations. Based on the County's recommendation, the ADEM may also propose that the S.I.D. permit be subject to one or more special conditions in regard to any of the following:

- (1) Pretreatment Requirements;
- (2) The average and maximum wastewater constituents and characteristics;
- (3) Limits on rate and time of discharge or requirements for flow regulations and equalization;
- (4) Requirements for installation of inspection and sampling facilities;
- (5) Specifications for monitoring programs, which may include sampling locations, frequency and method of sampling, number, types, and standards for tests and reporting schedule;
- (6) Requirements for submission of technical reports or discharge reports;
- (7) Requirements for maintaining records relating to wastewater discharge;
- (8) Mean and maximum mass emission rates, or other appropriate limits when incompatible pollutants (as set forth in Article II) are proposed or present in the user's wastewater discharge;
- (9) Other conditions as deemed appropriate by the County to insure compliance with this Ordinance, or other applicable law or regulation;
- (10) A reasonable compliance schedule as may be required by applicable law or regulation to insure the industrial user's compliance with pretreatment requirements or improved methods of operation and maintenance;
- (11) Requirements for the installation of facilities to prevent and control accidental discharge or "spill" at the user's premises.

F. APPLICANT'S NOTIFICATION OF DRAFT S.I.D. PERMIT; RIGHT TO OBJECT

- (1) Upon completion of its evaluation, the ADEM shall issue a draft S.I.D. permit with special conditions to be included.
- (2) The applicant shall have forty-five days from issuance of the ADEM draft S.I.D. permit to review same and mail a registered letter stating the objections to the County and ADEM. The ADEM may, but shall not be required to, schedule a meeting with the County and applicant's authorized representative within fifteen days following receipt of the applicant's objections, and attempt to resolve disputed issues concerning the draft S.I.D. permit.
- (3) If applicant files no objection to the draft S.I.D. permit or a subsequent agreement is reached concerning same, the ADEM shall issue a S.I.D. permit to applicant with such special conditions incorporated therein.

G. INDUSTRIAL SEWER CONNECTION

Upon submission of the S.I.D. permit application; Industrial User shall submit an Industrial Sewer Connection (I.S.C.) application to the County for the purpose of connecting the facility to the County sewer system. Upon determination that the capacity of the available existing County collection and treatment facilities are sufficient to accommodate applicant's waste and upon the user's receipt of an ADEM issued S.I.D. permit, the County shall issue applicant a permit authorizing such connection and permitting applicant to discharge wastewater from such premises to the County sewer system at the rate and in quantities stated therein. Upon receipt of such permit, applicants will thereafter be charged by the County at the rates established by resolution for the transportation and treatment of such wastewater. All connections shall be in full accordance with Article VIII contained herein.

H. COMPLIANCE SCHEDULING AND REPORTING REQUIREMENTS

The following conditions shall apply to the requirements enumerated by Sections C and E of this Article:

- (1) The schedule shall contain certain increments of progress in the form of calendar dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment requirements for the industrial user to meet the applicable Pretreatment Standards (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction, etc.).
- (2) No increment referred to in Section H (1) of this Article shall exceed nine (9) months.

- (3) Not later than fourteen (14) days following each date in the schedule and the final date for compliance, the industrial user shall submit a progress report to the County and the ADEM including, as a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for the delay, and steps being taken by the industrial user to return the construction to the schedule established. In no event shall more than nine (9) months elapse between such progress reports to the County and the ADEM.
- (4) Within ninety (90) days following the date for final compliance with applicable Pretreatment Standards or, in the case of a New Source, prior to commencement of the introduction of wastewater into the sewer system, any industrial user subject to Pretreatment Standards and Requirements shall submit to the County and the ADEM a report indicating the nature and concentration of all pollutants in the discharge from the regulated process which are limited by Pretreatment Standards and Requirements and the average and maximum daily flow for those process units which are regulated by such Pretreatment Standards or Requirements. The report shall state whether the applicable Pretreatment Standards or Requirements are being met on a consistent basis and, if not, what additional operation and maintenance procedure or pretreatment is necessary to bring the industrial user into compliance with the applicable Pretreatment Standards or Requirements. This statement shall be signed by an authorized representative of the industrial user as defined in Article I and certified to by a qualified Professional Engineer registered in the State of Alabama.
- (5) (a) Any industrial user subject to a Pretreatment Standard, after the compliance date of such Pretreatment Standard, or, in the case of a New Source, after commencement of the discharge into the sewer system, shall submit to the County and the ADEM during the months of June and December, unless required more frequently in the Pretreatment Standard or by the County and the ADEM, a report indicating the nature and concentration of pollutants in the effluent which are limited by such Pretreatment Standard. In addition, this report shall include a record of all daily flows which, during the reporting period, exceeded the average daily flow reported in Section C(4) of this Article. At the discretion of the County and the ADEM and in consideration of such factors as local high or low flow rates, holidays, budget cycles, etc., the County and the ADEM may agree to alter the months during which the above reports are to be submitted.
- (b) The County and ADEM, as applicable, may impose mass limitations on industrial users which are using dilution to meet applicable Pretreatment Standards or Requirements or in other cases where the imposition of mass limitations are appropriate. In such cases, the report required by subparagraph (a) of this paragraph shall indicate the mass of pollutants regulated by Pretreatment Standards in the effluent of the industrial user.
- (6) The Industrial User shall immediately notify the County of any such discharge as defined by Article II.A by calling (205) 942-0681.

- (7) The reports required in this Article shall contain the results of sampling and analysis of the discharge, including the flow and the nature and concentration, or production and mass limits where requested by the County and the ADEM, of pollutants contained herein which are limited by the applicable Pretreatment Standards. The frequency of monitoring shall be prescribed in the applicable Pretreatment Standard. All analyses shall be performed in accordance with procedures established by the Environmental Protection Agency under the provisions of Section 304(h) of the Act (33 U.S.C. 1314(h)) and contained in 40 CFR Part 136 and amendments thereto or with any other test procedures approved by the Environmental Protection Agency or the ADEM. Sampling shall be performed in accordance with the techniques approved by the Environmental Protection Agency.

I. MAINTENANCE OF RECORDS

Any Industrial User subject to the report requirements established in this Article shall maintain records of all information resulting from any monitoring activities required by this Article. Such records shall include for all samples:

- (1) The date, exact place, method, and time of sampling, preservation techniques, and the names of the persons taking the samples;
- (2) The date analyses were performed;
- (3) Who performed the analyses;
- (4) The analytical techniques/methods used; and
- (5) The results of such analyses

J. RETENTION OF RECORDS

Any Industrial User subject to the reporting requirement established in this Article shall be required to retain for a minimum of five (5) years any records of monitoring activities and results (whether or not such monitoring activities are required by this Article) and shall make such records available for inspection and copying by the County, the Alabama Department of Environmental Management or the Environmental Protection Agency. This period of retention shall be extended during the course of any unresolved litigation involving the Industrial User or when requested by the County, the Alabama Department of Environmental Management, or the Environmental Protection Agency.

K. DURATION OF PERMITS

S.I.D. permits shall be issued for a period of five (5) years. Original permits, however may be issued for a period between two (2) and five (5) years for the administrative convenience of the ADEM so as to stagger the renewal dates of the permits. Notwithstanding the foregoing, users becoming subject to a National Pretreatment Standard shall apply for new permits on the effective date of such National Pretreatment Standards. The County shall notify in writing any user whom it has cause to believe is subject to a National Categorical Pretreatment Standard of the promulgation of such federal regulations, but any failure of the County in this regard shall not relieve the user of the duty of complying with such National Pretreatment Standards. A user must apply in writing to the County and ADEM for a renewal permit within thirty (30) days prior to expiration of the current permit. Provided further that limitations or conditions of a permit are subject to modification or change as such changes may become necessary due to revisions in applicable water quality standards, changes in the County's NPDES permit, changes in Article II, changes in other applicable law or regulation, or for other just cause, users shall be notified of any proposed changes in their permit by the County and ADEM at least thirty (30) days prior to the effective date of the change. Any change or new condition in a permit shall include a provision for a reasonable time schedule for compliance. The user may appeal the decision of the ADEM in regard to any changed permit conditions as otherwise provided in this Ordinance.

L. TRANSFER OF A PERMIT

S.I.D. permits are issued to a specific user for a specific operation. A S.I.D. permit shall not be reassigned or transferred or sold to a new owner, new user, or for different premises.

M. REVOCATION OF A PERMIT

Any permit issued under the provisions of this Article is subject to be modified, suspended, or revoked in whole or in part during its term for cause included but not limited to the following:

- (1) Violation of any terms or conditions of the wastewater discharge permit or other applicable law or regulation;
- (2) Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts;
or
- (3) A change in any permit condition that requires either a temporary or permanent reduction or elimination of the regulated discharge.

ARTICLE V - INSPECTION, MONITORING AND ENTRY

A. GENERAL

Whenever required to carry out the objective of this Ordinance, including but not limited to, (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, standard of performance, or permit condition under this Article; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard pretreatment standard, standard of performance, or permit condition; (3) any requirement established under this Article.

- (1) The County and ADEM shall require any non-domestic user to (a) establish and maintain such records as required by Article IV, (b) make such reports, (c) install, use and maintain such monitoring equipment and methods (including, where appropriate, biological monitoring methods), (d) sample such effluent (in accordance with such methods, at such locations, at such intervals, and in such manner as the County and ADEM shall prescribe), (e) provide access to the plant, to the County, ADEM and EPA and (f) provide such other information as it may reasonably require.
- (2) The authorized representative of the County, ADEM, or EPA upon presentation of his credentials:
 - (a) shall have a right of entry to all properties within thirty (30) minutes of presenting proper credentials for purposes of inspection, observation, measurement, sampling and testing in accordance with the provisions of this Ordinance.
 - (b) may at any time have access to and copy any records, inspect any monitoring equipment or method required under clause (1), and sample any effluents where the owner or operator of such source is required to sample under such clause.
- (3) Where, in the opinion of the County, construction, repair, or maintenance of any portion of the system carrying wastewater, storm water, or surface water is needed and said portion lies within a public easement, County employees or contractors shall be permitted to enter upon said easement and perform such work as may be necessary. The responsibility for payment of the cost and expense of any such activities shall be determined by the County in accordance with the individual circumstances.

- (4) Where, in the opinion of the County, construction, repair or maintenance of any portion of the system carrying wastewater, storm water, or surface water is needed and said portion lies outside of a public easement, the owner thereof shall be advised by the County of the needed construction, repair or maintenance given a reasonable time, as determined by the County to complete such work. Upon the owner's refusal or failure to complete such work as aforesaid, the County may, with consent of the owner, perform such work at the expense of the owner. Upon the failure of the owner to perform such work or consent to such work at the owner's expense, the County may disconnect said portion from the system.

B. REQUIREMENTS

Specific requirements under the provisions of Section A of this Article shall be established by the County and ADEM for each Industrial User and such requirements shall be included as a condition of the user's S.I.D. permit. The nature or degree of any requirements under this provision shall depend upon the nature of the user's discharge, the impact of the discharge and economic reasonableness of any such requirement imposed. The user shall be required to design any necessary facility, and to submit detailed design plans and operating procedures to the County and ADEM for review in accordance with accepted engineering practices. However, the County shall not approve such a submittal for performance.

C. DENIED RIGHT OF ENTRY

In the event any user denies the County, ADEM, or EPA or their authorized representatives the right of entry, to or upon the user's premises for purposes of inspection, sampling effluents, or inspecting and copying records, or performing such other duties as shall be imposed upon him by this Section, the County, ADEM, or EPA shall use such legal procedures as shall be advisable and reasonably necessary to discharge its duties under this Ordinance to obtain entry.

D. DENIED DUTY

Any user failing or refusing to discharge any duty imposed upon him under the provisions of this Article, or who denies the County and ADEM the right to enter upon the user's premises for purposes of inspection, sampling effluents, inspecting and copying records, or such other duties as may be imposed upon him by this Article, shall be deemed to have violated the conditions of his S.I.D. permit and such permit shall be subject to modification, suspension, or revocation under the procedure established in Article III.

E. CONTROL MANHOLE

All industrial waste connections shall have a control manhole or equivalent, which will meet County specifications per Article VIII. The industrial user shall supply and maintain at its expense such equipment as may be necessary to enable the County to take continuous refrigerated flow proportional samples of the wastewater discharges. If after initial sampling and monitoring by the County, it is determined that the facilities are inadequate to obtain data of sufficient quality, the County may require changes or modifications in the facility as it deems necessary. It shall be the owner's responsibility to maintain such facilities and equipment contained therein. Any damage, which necessitates repair or replacement of the facility, shall be assessed and charged to the owner on an actual cost basis.

ARTICLE VI - QUANTITY DETERMINATIONS

Unless otherwise provided, in making a quantity determination, the quantity of waste delivered to the sewer system will be the same as the quantity of water delivered to the user by his water system. If well water is used, it must be metered and made known to the County on a monthly basis.

Should the user evaporate or dispose of water delivered by the water system, it shall be the obligation of the user to install such meters or other devices to determine the portion of quantity delivered to the sewer system. The County and ADEM will consider establishing a constant ratio, factor, or percentage to be applied to the metered water quantity delivered by the water system in order to determine the wastewater discharged by the user. It shall be the responsibility of the user to determine said factor and provide adequate written documentation, which justifies the factor to the satisfaction of the County and ADEM. The value of this factor will be biannually reviewed for accuracy.

All industries, commercial organizations, or other producers of liquid waste or any form, including domestic wastewater originating from hotels, motels, hospitals, universities, schools, laboratories of any nature, or homes served by the sewer system, and for which the water supply is from private wells or other suppliers of water, must pay a sewer connection charge to the County. Not less than the minimum charge established by this Ordinance will be applied. It shall be the obligation of the owner in all instances to submit a statement immediately where no payment procedure has been established.

ARTICLE VII - FEES, CHARGES, AND PENALTIES

A. USER CHARGES

A.1 SINGLE FAMILY RESIDENTIAL

A uniform volume charge per 100 cubic feet of 85% of metered water consumption.

Beginning January 1, 2008 \$7.40

A.2 OTHER DOMESTIC USERS

A uniform volume charge per 100 cubic feet of all metered water consumption.

Beginning January 1, 2008 \$7.40

A.3 OTHER USERS

A uniform volume charge per 100 cubic feet of all metered water consumption.

Beginning January 1, 2008 \$7.40

A.4 BILLING FREQUENCY

Bills are rendered quarterly or monthly at the discretion of the County. For users not on metered water, charges will be determined by the County.

A.5 MINIMUM CHARGES

At present, minimum quarterly and monthly charges are levied in accordance with the following table:

<u>METER SIZE</u>	<u>MINIMUM CHARGE QUARTERLY</u>	<u>MONTHLY</u>
5/8	\$ 5.40	\$ 2.00
3/4	6.90	2.50
1	13.50	5.00
1 1/4	18.00	7.00
1 1/2	22.50	9.00
2	38.40	14.00
3	72.00	28.00
4	119.40	45.00
6	234.00	85.00
8	472.50	170.00
10	567.00	200.00
12	715.50	250.00

A.6 PROCESSING FEE

A processing fee is hereby levied and imposed in the amount of \$12.00 for the processing of each application for private meter credit for the purpose of recovering the costs of administering the private meter program.

B. INDUSTRIAL WASTE SURCHARGES

An industrial waste surcharge shall be assessed against any industry in the County service area whose wastewater characteristics exceed the following normal wastewater strength:

BOD	Above 300 mg/l
COD	Above 750 mg/l
Suspended Solids (SS)	Above 300 mg/l
Fats, Oils, & Grease	Above 50 mg/l
Total Phosphorus	Above 4 mg/l

At present, industrial waste is considered any wastewater discharge with pollutant loadings in excess of the above maximum. The industrial waste surcharge elements shall be determined by application of the following rates:

(The surcharge per pound is determined as follows:)

<u>Biochemical Oxygen Demand (300 – 1200)</u>	<u>\$0.1950</u>
<u>Biochemical Oxygen Demand (1201 +)</u>	<u>\$0.2925</u>
<u>Total Suspended Solids (300 - 1000)</u>	<u>\$0.1500</u>
<u>Total Suspended Solids (1001 +)</u>	<u>\$0.3000</u>
<u>Chemical Oxygen Demand (750 - 3000)</u>	<u>\$0.1950</u>
<u>Chemical Oxygen Demand (3001 +)</u>	<u>\$0.2925</u>
<u>Fats, Oils, & Grease</u>	<u>\$0.1000</u>
<u>Total Phosphorus</u>	<u>\$2.0000</u>

At the discretion of the County and at such times when data has been compiled and established, additional or modified industrial waste surcharge elements shall be imposed. Such surcharges will be based upon the higher cost of treatment of the pollutant.

Pounds shall be computed by 0.00624* times the volume of the wastewater (in hundreds of cubic feet) times the parts per million (ppm) of wastewater as described in the Table above.

*The conversion factor used to determine the weight in pounds of one milligram per liter (mg/l) for a liquid volume in hundreds of cubic feet.

C. SEWER IMPACT PERMIT AND IMPACT FEES

All persons or entities who wish to connect to the County Sewer System, or modify, expand or change an existing connection to the County Sewer System shall first obtain a Sewer Impact Permit from the Jefferson County Sewer Permitting and Inspection Office by paying a non-refundable impact fee to the County for fixtures actually installed. Refunds for fixtures not installed may be refunded in accordance with Section C.11.

C.1. PROCEDURES

All impact fees shall be paid by the User or his designated agent before a building or plumbing permit will be issued for any residential, commercial, or industrial facilities whose wastewater is treated in the County Sewer System. The following is indicative of the step-by-step process which is required of an applicant in order to secure an impact permit that will enable the user to obtain a building or plumbing permit upon presentation to the appropriate authority:

1. Applicants must bring their building and/or plumbing drawings to the Sewer Permitting and Inspection Office of the Environmental Services Department (Room A-300, County Courthouse), Birmingham, Alabama, where they will pay impact fees and obtain an impact permit. It is the responsibility of the applicant to determine the number of fixtures for computation of the impact fee. The County will render assistance if the applicant furnishes drawings; however, the County will not assume responsibility for the fixture count.
2. After payment, the County will mark the impact permit form paid and retain two copies of the impact permit for its records. The applicant will receive two copies.
3. The applicant must present a copy of the impact permit marked "paid" to the Building Official of the County or Municipality before the Building Official will issue the applicant a building or plumbing permit. A copy should be retained by the applicant for his own records. The applicant shall also be responsible to insure that Sewer Connection Permits are obtained by the plumbing contractor in accordance with "Standards for Sanitary Sewer Lines and Connections" adopted by the County.
4. The County or Municipality shall retain one copy of the impact permit and attach said copy to their record copy of the building or plumbing permit. The County or Municipality shall not issue a building permit or a plumbing permit without an impact permit marked "paid" in accordance with the Unification Agreement. Any failure of the County or Municipality to require payment of the impact fee before issuance of a building permit or plumbing permit shall not operate as any waiver nor relieve the responsible party from payment of the applicable fee.

5. After obtaining the impact permit and the corresponding building or plumbing permit, the applicant may wish to increase or decrease the number or type of plumbing fixtures covered by the permit. For an increase in the number of fixtures, the applicant must return to the Sewer Permitting and Inspection Office and obtain a supplemental impact permit covering the increased number of fixtures before installation of the fixtures. For a decrease in the number of plumbing fixtures, the applicant may return to the office within two (2) years of issuance of the impact permit and obtain a refund by surrendering the applicant's copy of the impact permit. For a full refund, applicant must surrender all copies of the impact permit.

The County shall inspect to determine compliance with the impact permit issued to the applicant. The number of inspections and the timing of inspections shall be at the sole discretion of the County. Provided, it shall be the responsibility of the applicant and/or the Owner or Owner's representative to notify the County of completion of construction. For any plumbing fixtures which were not included in the impact permit or supplemental impact permit there will be an impact fee charged in accordance with the fee schedule established in Section C.3 of this Article. This impact fee must be paid before a certificate of occupancy will be issued.

If failure to make payment of impact fees results in legal action, the applicant must pay all costs and reasonable attorney's fees of such legal action.

C.2. DEFINITION OF PLUMBING FIXTURES

For the purpose of this Ordinance, a plumbing fixture is defined as any of the following:

1. Bathtub with or without a shower
2. Shower without a bathtub
3. Water closet
4. Bidet
5. Lavatory
6. Urinal
7. Sink
8. Dishwasher
9. Washing machine
10. Garbage disposal unit
11. Stubouts for plumbing fixtures
12. Floor drain
13. Trench drain (per 18" of length)
14. Bradley wash sink (per 18" of sink perimeter)
15. Group shower heads
16. Drinking fountain
17. Air conditioner condensate drain
18. Dumpster drain
19. Commercial ice machine

- 20. Photographic developing machine
- 21. Autoclave
- 22. Restaurant/Bar seat
- 23. Any other connection to the County Sewer System not included herein which the County determines should be classified as a plumbing fixture.

C.3. FEE SCHEDULE

An impact fee is hereby levied upon each new connection to the County Sewer System within or without the County in accordance with the following schedule:

FIXTURE FEE SCHEDULE

<u>PLUMBING FIXTURE</u>	<u>PAYMENT REQUIRED PRIOR TO FIXTURE INSTALLATION</u>	<u>PAYMENT REQUIRED FOLLOWING A THIRTY (30) DAY NOTICE OF UNPERMITTED FIXTURE(S)¹</u>
1. Bathtub with or without shower	\$225.00	\$450.00
2. Shower without a bathtub	225.00	450.00
3. Water closet	225.00	450.00
4. Bidet	225.00	450.00
5. Lavatory	225.00	450.00
6. Urinal	225.00	450.00
7. Sink	225.00	450.00
8. Dishwasher	225.00	450.00
9. Washing machine	225.00	450.00
10. Garbage disposal unit	225.00	450.00
11. Stubouts for plumbing fixtures	*	See Footnote ¹
12. Floor drain	56.25	112.50
13. Trench Drain (per 18" of length)	225.00	450.00
14. Bradley wash sinks (per 18" of sink perimeter)	225.00	450.00
15. Group shower (per shower head)	225.00	450.00
16. Drinking fountain	56.25	112.50
17. Air conditioner condensate drain	56.25	112.50
18. Dumpster drain	225.00	450.00
19. Commercial ice machine	225.00	450.00
20. Photographic developing machine	225.00	450.00
21. Autoclave	225.00	450.00
22. Restaurant/Bar seat	112.50	225.00
23. Other fixtures	**	See Footnote ¹

- * Impact fee for stubouts will be the cumulative fee for the fixtures to be served by the stubout.
- ** Impact fee to be determined by the County on a case by case basis in accordance with C.9 and at a rate of \$225.00 per plumbing fixture.
- ¹ Failure to make the payment required for any plumbing fixture prior to installation shall result in a doubling of the payment required, if not paid within thirty (30) days of the date of a notice mailed to the address for legal notices.

C.4. CREDIT FOR EXISTING FIXTURES

If an existing structure is to be demolished and replaced by a new structure at the same location, an applicant may be allowed credit for the plumbing fixtures in the existing structure. Credit may be given only for those plumbing fixtures in the existing structure which are connected to the County Sewer System. To receive credit for existing fixtures, applicants must arrange an inspection by County personnel to verify the fixture count prior to removing the old fixtures. Credit will not be given unless the fixtures have been inspected by the Environmental Services Department of the County prior to removal or evidence of a prior paid impact permit is presented.

If an existing structure is being added to, altered or remodeled, and an applicant wishes to relocate or replace existing plumbing fixtures within said structure, credit for existing fixtures will be allowed under the same provisions regarding inspection and verification as stated.

Except as provided herein, credit for existing connections and fixtures and seats in food serving establishments cannot be transferred from one location to another. For example, buildings, houses or other structures moved from one site to another shall be charged in accordance with the fee schedule established under Section C.3. of this Article. (Credits cannot be transferred to adjacent structures or units.) Provided, however, if such move is caused by condemnation or threat of condemnation and the initial location is permanently dedicated to a use that will not require a connection to the County Sewer System and the other requirements hereinabove are met, credit for such existing connections and fixtures and seats may be granted in accordance herewith.

Conditions not covered herein shall be handled by way of a determination by the County as to the amount of an impact fee which will be charged to the applicant. The burden of proof for establishing any claimed credit and right to sewer use as provided herein shall be on the applicant.

C.5. MOBILE HOMES

Single mobile home installations shall have impact fee determined in accordance with Section C.3 of this Article.

C.6. MOBILE HOME PARKS

The impact fee for a mobile home park shall be calculated at a rate of eight (8) plumbing fixtures per single wide mobile home or trailer pad and ten (10) plumbing fixtures per double wide mobile home or trailer pad. Said fees are applicable to new construction. Impact fees for existing mobile homes served by a septic tank shall be assessed in accordance with Article VII, Section C.8 below.

C.7. FOOD SERVICE ESTABLISHMENTS

As herein used, "restaurant" shall mean an establishment which serves food and/or beverages for consumption on the premises by use of reusable flatware/tableware, or glassware; "lounge" shall mean any establishment which serves beverages for on-premises consumption. The impact fee for restaurants and lounges shall be assessed at a rate of one-half (½) plumbing fixture per seat. The impact fee for all other food serving establishments shall be determined on the basis of projected volume of flow to the sewer as set out in Section C.9, Non-Domestic Impact Fees.

The owner of the restaurant or lounge shall be required to install grease traps on the premises and shall be responsible for cleaning of grease traps located on the premises. Grease trap cleaning shall be performed by a certified wastewater hauler licensed by the County and the Alabama Onsite Wastewater Board. Evidence of cleaning must be presented to the Health Department during inspection of the restaurant or lounge. Contents of grease traps shall be disposed of at approved County facilities.

C.8. ALTERNATE WASTE DISPOSAL SYSTEM CONVERSION TO COUNTY SEWER SYSTEM HOOK-UP

Any home, mobile home or commercial building served by a septic tank, out-house or privy, which was constructed under specifications of the Jefferson County Department of Health and approved for use by said agency, may connect to the County Sewer System at any time, provided there is not some prohibition in the regulations of the County, State or Federal Government and upon payment of a ten (\$10.00) dollar fee for such connection. Such connections shall also be subject to the following provisions:

A septic tank conversion fixture credit shall be limited to the existing fixtures up to a maximum of sixteen (16) fixtures (or equivalent fixtures). If the conversion is performed without a permit then the fixture credits will be voided and fees will be paid in accordance with the fixture fee schedule in Section C.3 of this Article. All new fixtures or existing fixtures in excess of the limit of sixteen (16) will result in the user being charged an impact fee at the rate established by Section C.3 of this Article.

C.9. NON-DOMESTIC IMPACT FEES

Any connection to the County Sewer System which will result in a non-domestic discharge of wastewater by virtue of the volume, rate of flow, or the level of pollutant concentrations will warrant an impact fee as determined by the County on a case-by-case basis. The County will base its determination upon all factors which significantly influence the consumption of County Sewer System hydraulic capabilities.

The determination shall be based on the annual volume contributed by a domestic household which is defined as having twelve (12) plumbing fixtures and the flow from which is equivalent to 125 hundred cubic feet per year. Therefore, an equivalent plumbing fixture, in terms of flow, shall be equal to 10.42 hundred cubic feet per year. Each equivalent plumbing fixture shall be assessed an impact fee charge as established by Section C.3 of this Article.

To determine the impact fee for non-domestic users, the following procedure shall be used:

1. The impact fee shall be determined on estimates of flow by the applicant at the time of application to secure an impact permit.
2. The County shall apply the applicant's estimates to the following formula to determine the number of equivalent plumbing fixtures and the impact fee to be charged as a result thereof.

$$\left\{ \begin{array}{l} \text{Number of Equivalent} \\ \text{Plumbing Fixtures} \end{array} \right\} = \text{annual volume of water to sewer (cu. ft.)} \div 1,042 \text{ cu. ft.}$$

$$\text{Non-Domestic Impact Fee} = \left\{ \begin{array}{l} \text{Number of Equivalent} \\ \text{Plumbing Fixtures} \end{array} \right\} \times \left\{ \begin{array}{l} \text{the rate established by} \\ \text{Sec. C.3 of this Article} \end{array} \right\}$$

3. A determination of actual wastewater volume shall be made using actual metered water consumption during the first year of applicant's operation. If it is determined by actual measurement that the volume discharged to the County Sewer System is different from the figures given by the applicant, an adjustment will be made either by a refund to or an additional charge to the applicant. The adjustment shall be made on the highest six (6) month volume discharged to the County Sewer System. Metering shall be installed at the Users expense if required by the County for determination of actual wastewater volume discharged.

C.10. EXEMPTIONS

The governing bodies of Jefferson County and all municipalities contained therein shall be exempted from payment of all impact fees for facilities which will be used directly by the aforementioned governing bodies for carrying out their governmental functions. The impact fee exemption does not apply to park boards, recreation boards, school systems, housing boards or authorities, libraries, federal agencies and state agencies.

C.11. REFUND OF IMPACT FEES

Upon proper application by the permittee, the County will refund sewer impact fees for fixtures which have not been installed. If no building permit was issued, the permittee must return all copies of the original impact permit and payment receipt for said fixtures in order to receive a refund. If a building permit was issued, the permittee must return the applicant's copy of the impact permit to the Sewer Permitting and Inspection Office within two (2) years of the issuance. An administrative charge for refunds will be assessed as follows:

1 – 10 Fixtures	=	\$10.00
11 – 50 Fixtures	=	\$20.00
51 or more Fixtures	=	\$50.00

D. SEPTAGE AND HOLDING TANK DISCHARGES

Only operators holding a current certificate of competency from the Jefferson County Health Department will be authorized to discharge septage and holding tank waste into the sewer system. Such septage shall be limited to wastewater not prohibited by this Ordinance, shall not include industrial sludges, and shall be discharged into the sewer system only at the following locations:

- (1) The County's Septage Discharge Facility near the Birmingham Municipal Airport at 1701 40th Street North
- (2) Valley Creek Wastewater Treatment Plant in West Bessemer
- (3) Village Creek Wastewater Treatment Plant in Ensley
- (4) Such other places as may be designated by the Director of Environmental Services

Fees for discharge and disposal at the above locations are set as \$30.00 per 1000 gallons, as measured at the discharge facility. The County reserves the right to update this fee based on increased operating costs. Payment for dumping or discharging approved tank waste at the above designated locations shall be made by delivering a ticket of appropriate denomination to the attendant designated to receive same. Books with tickets of appropriate denominations shall be made available for purchase by certified operators at the Impact Connection Permit Office of the Environmental Services Department, Suite A300, 3rd Floor North Annex, Jefferson County Courthouse, 716 Richard Arrington Jr. Blvd. North, Birmingham, Alabama 35203.

E. MISCELLANEOUS FEES

- (1) Cost incurred by the County for sampling and monitoring industrial- trial wastewater in accordance with Article V of this Ordinance shall be charged to the monitored industry on an actual cost basis.
- (2) Sampling or resampling and analysis or reanalysis tasks conducted by the County to establish an industrial waste surcharge shall be charged to the monitored industry on an actual cost basis.
- (3) All Users located outside the political jurisdiction of Jefferson County, or all users for which the wastewater flows originate outside the political jurisdiction of Jefferson County, shall pay a sewer user charge to the County equal to the user charges described in Section A of this article multiplied by the following non-resident user factor.

Non-Resident User Factor = 1.06

Minimum charges set forth in Section A.5 of this article shall also be multiplied by the non-resident user factor. All other fees or charges described within this ordinance shall be assessed to non-residential users in accordance with the schedules set forth herein or as may be established by Jefferson County.

At the discretion of the County and at such times when County ad-valorem tax or any other County sewer system related tax is modified or adopted, the non-resident user factor may be changed or modified by the County.

F. PENALTIES

For violation of any provision of this Article VII, Jefferson County in conjunction with the ADEM may, under provisions of the Code of Alabama, 1975, Section 22-22-9, paragraphs L, M, O, P and Q, as amended in 1980, fine the user not less than one hundred dollars (\$100.00) nor more than ten thousand dollars (\$10,000.00) for each offense. Each day on which a violation shall occur or continue, shall be deemed a separate and distinct offense. In addition to these penalties, the same Section allows the County to recover reasonable attorney's fees, court costs, court reporters' fees and other expenses of litigation by appropriate suit as law against the person found to have violated this Ordinance of the orders, rules, regulations, and permits issued hereunder.

ARTICLE VIII - BUILDINGS, SEWERS, AND CONNECTIONS

A. OWNER RESPONSIBILITY

All costs and expense incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the County from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

B. NUMBER OF SEWERS PER BUILDING

A separate and independent building sewer shall be provided for every building, provided, however, where one building stands at the rear of another of an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the sewer may be extended to the rear building and the whole considered as one building sewer. Provided further, that if separate water meters service each building, then separate sewer service can be charged to each building, and a separate sewer will be required. A separate sewer shall be a single sewer line running from the building to the common sewer (collector) serving all buildings in the area.

C. CONSTRUCTION REGULATIONS

The size, slope, alignment, materials or construction of a building sewer, and the methods to be used in excavating, placing of pipe, jointing, testing, and backfilling the trench, shall all conform to the requirements of the plumbing codes or other applicable rules and regulations of the County. In the absence of code provisions, or in amplification thereof, the materials and procedures set forth in appropriate specifications of the ASTM and WPCF Manual of Practice No. 9 shall apply. A cleanout connection (plugged "T") shall be made at the building and at the property line. No private sewer may be extended more than fifty (50) feet in the public right of way.

D. SEWER ELEVATION

Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the sewer, sanitary wastewater carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

E. CONNECTION REGULATIONS

The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing codes or other applicable rules and regulations of the County, or the procedures set forth in appropriate specifications of the ASTM and the WPCF Manual of Practice No. 9. All such connections shall be made gastight and watertight. Any deviation from the prescribed procedures and materials must be approved by the County before installation.

F. ON-SITE REQUIREMENTS

All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the County.

G. INTERCEPTORS

Organic and mineral grease and oil, and sand interceptors shall be provided by the owner when, in the opinion of the County, they are necessary for the proper handling of liquid wastes as defined in Article II.A; except that such interceptors shall not be required for private living quarters or dwelling units. Prior to installation, all interceptor plans and specifications must have received written approval from the County and shall be located as to be readily and easily accessible for cleaning and inspection.

H. FACILITY MAINTENANCE

Where primary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.

I. CROSS-CONNECTION

Any cross-connection between potable water supply and a sanitary sewer is prohibited.

ARTICLE IX - GENERAL PROVISIONS

A. DAMAGE TO SEWER SYSTEM

No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any portion of the sewer system. Any person violating this provision shall be punished as according to law.

B. VALIDITY

All resolutions, ordinances, parts of resolutions, or parts of ordinances in conflict herewith are hereby repealed.

C. SEVERABILITY

If any provision, paragraph, word, section, or article of this Ordinance is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, sections and chapters shall not be affected and shall continue in full force and effect.

ARTICLE X - ORDINANCE IN FORCE

A. DATE EFFECTIVE

This ordinance shall be in full force and effect on the date of passage.

B. DATE ADOPTED

Passed and adopted by the Jefferson County Commission on the ____ day of _____, _____. Approved this ____ day of _____, _____.

by _____.

Attest:

Minute Clerk of the Jefferson County Commission
Approved as to correctness:

**IN THE UNITED STATES BANKRUPTCY COURT
FOR THE NORTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION**

In re:)	
)	
JEFFERSON COUNTY, ALABAMA,	)	Case No. 11-05736-TBB
a political subdivision of the State of)	
Alabama,	)	Chapter 9
)	
Debtor.)	

**THIRD PERIODIC STATUS REPORT
CONCERNING THE SEWER RATEMAKING PROCESS**

Pursuant to the *Interim Order on Motion to Lift or Condition the Automatic Stay Filed by Financial Guaranty Insurance Company* [Docket No. 967] entered May 7, 2012 (the “Interim Order”), Jefferson County, Alabama (the “County”), the debtor in the above-captioned chapter 9 case, respectfully submits this Third Periodic Status Report Concerning the Sewer Ratemaking Process (the “Status Report”).¹

1. The Third Public Hearing

On August 20, 2012, in the John L. Carroll Moot Courtroom at Samford University’s Cumberland School of Law, the Jefferson County Commission (the “Commission”) held the third of several contemplated public hearings regarding sewer rates. The County published official notice of the hearing in the August 11, 2012 edition of the *Alabama Messenger*, at the County Courthouse, in several editions of the *Birmingham News*, and by docket notice in this bankruptcy case, *see Notice of Third Sewer Rate Hearing* [Docket No. 1229].

¹ The County’s *First Periodic Status Report Concerning the Sewer Ratemaking Process* [Docket No. 1070] (the “First Report”) was filed June 18, 2012. The County’s *Second Periodic Status Report Concerning the Sewer Ratemaking Process* [Docket No. 1190] (the “Second Report”) was filed August 2, 2012. The First and Second Reports are available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab.

In his opening remarks, Commission President David Carrington explained that he and Commissioners Brown, Bowman, Knight and Stephens have “found this process to be very valuable, . . . both because [of] the testimony we have heard from the invited witnesses and because of the citizen comments.” Tr. at 2:5-9.² Commissioner Carrington also extended the Commission’s thanks to John Carroll, Dean of the Cumberland School of Law and former United States Magistrate Judge, who graciously volunteered to moderate the first three public sewer hearings. *Id.* at 2:12-3:1.

Following these opening remarks, Lance LeFleur, Director of the Alabama Department of Environmental Management (“ADEM”), testified. Mr. LeFleur began by explaining ADEM’s role, mission and relationship with the federal Environmental Protection Agency (“EPA”). *Id.* at 8:14-9:19; *see also id.* at 14:3-15:17 (relationship of ADEM and EPA in connection with setting Total Maximum Daily Load levels for certain substances). Mr. LeFleur explained that under the federal Clean Water Act, 33 U.S.C. §§ 1251, *et seq.*, a treatment facility is prohibited from discharging any wastewater except in strict compliance with that facility’s National Pollutant Discharge Elimination System (“NPDES”) permit. Tr. at 9:19-10:4.

The County’s sewer system has nine NPDES permits – one for each wastewater treatment plant. *Id.* at 10:4-7. “These permits include specific and detailed requirements addressing discharge limits, monitoring, recordkeeping, and reporting, and notification.” *Id.* at 10:7-10. If a particular facility is not in compliance with its NPDES permit, each and every discharge of wastewater from that facility is a violation of the Clean Water Act, with potentially serious consequences. *Id.* at 10:11-20. Accordingly, Mr. LeFleur advised the Commission that

² A complete transcript of the August 20, 2012 sewer rate hearing is attached hereto as Exhibit A. The transcript and this report are also available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab.

“resources spent by the County to comply with [its nine] NPDES permits are a wise and prudent investment.” *Id.* at 10:21-23.

Mr. LeFleur testified that “the County has done a good job with its compliance efforts,” and he praised “the professionals who operate the County sewer system” for having “done an excellent job” and for their “cooperative spirit and dedicated efforts” in working with ADEM. *Id.* at 11:2-14. He cautioned, however, that “NPDES permits are not static,” *id.* at 11:22, and that “the renewal permits ADEM anticipates issuing in the near future for two of the County’s treatment plants . . . will contain stricter limitations on the amount of total phosphorous, or TP, present in the treated wastewater discharge[d] by these two plants.” *Id.* at 13:1-7. These wastewater treatment plants discharge into the Cahaba River, which has been determined to be “impaired with regard to [phosphorous].” *Id.* at 15:22. That impairment – and the strict new phosphorus regulations designed to correct it – “has profound and far-reaching implications for the citizens of Jefferson County.” *Id.* at 16:8-10.

Specifically, Mr. LeFleur explained that meeting the “new [phosphorus] target will not be easy nor will it be cheap.” *Id.* at 16:19-20. That is the case even though ADEM has phased in the new target “over the *maximum time period available.*” *Id.* at 16:11-14 (emphasis added). Compliance will cost approximately \$150 million, *id.* at 16:21-17:4, and Mr. LeFleur warned that even after that substantial outlay, “the Jefferson County sewer system can anticipate that significant additional expenditures will be necessary to ensure compliance with the increasingly stringent requirements of NPDES permits.” *Id.* at 17:7-12.

When Mr. LeFleur’s testimony concluded, Dean Carroll noted that no members of the public had signed up to comment. *Id.* at 18:16-23. Accordingly, the third public hearing was adjourned.

2. August 20, 2012 Submission

On the same date as the third public hearing, an ad hoc group of creditors (the “GLC Group”) stating that they hold approximately \$700 million of sewer system debt provided a detailed, 36-page submission (the “GLC Submission”) for the Commission’s consideration as part of the rate-setting process.³ The GLC Submission compares Jefferson County’s system to 28 other sewer systems also operating under EPA consent decrees, *see* GLC Submission at 9 & App’x A; including by miles of sewer pipe, *id.* at 12 & 14; number of customers, *id.* at 13-14; operating expenses by customer, *id.* at 15; sewer fees as a percentage of median income, *id.* at 17 & 19; property tax as a percentage of median income, *id.* at 18-19; and projected sewer fee increases for 2013-2015, *id.* at 21-22.

Additionally, among other topics, the GLC Group discusses:

- The fixed nature of most sewer costs and the consequence that a smaller base of customers will shoulder higher per-account costs as compared to a larger customer base, *id.* at 4 & 11;
- The comparability of the sewer rate increases contemplated as part of a draft September 2011 settlement term sheet to average projected increases of comparable sewer systems operating under EPA consent decrees, *id.* at 4;
- Today’s historically low interest rates, *id.* at 5-6; *see also id.* at 7 (overview of municipal financing market); and the County’s potential ability to access such rates through legislative measures (including the creation of a GUSC and the backing of a State moral obligation pledge), *id.* at 5 & 32-33; and

³ A copy of the GLC Submission is attached hereto as Exhibit B, and is also available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab.

- The legality and desirability of requiring mandatory hook-ups for new construction within proximity to existing sewer lines, *id.* at 31 (citing ALA. CODE § 11-3-11(a)(15)).

The GLC Group further notes that, according to the 2009 Special Master’s Report, “[s]ewer fees for Jefferson County currently represent 96% of total [system] funding,” whereas other systems under EPA consent decrees generate only 93% of their revenue from sewer fees. GLC Submission at 24. Accordingly, the GLC Group recommends that the County consider additional revenue generation from other sources, including clean water charges for septic system owners and potential revenue enhancements outlined in the 2009 Special Master’s Report. *Id.*

3. August 31, 2012 Submission

On August 31, 2012, the Indenture Trustee, JPMorgan Chase Bank, N.A., Bank of America, Bank of Nova Scotia, Société Générale, Bank of New York Mellon, State Street Bank and Trust Company, Lloyds TSB Bank plc, Assured Guaranty Municipal Corp. and Syncora Guarantee Inc. (collectively, the “Responding Creditors”) submitted a 4-page letter (the “August 31 Letter”) with 1,112 pages of exhibits (collectively with the August 31 Letter, the “August 31 Submission”) for the Commission’s consideration as part of the rate-setting process.⁴

The August 31 Letter states that “the County is both obligated and able to raise rates to a level sufficient to pay all of the County’s sewer obligations in full.” Aug. 31 Letter at 1. It

⁴ A copy of the August 31 Letter is attached hereto as Exhibit C. The complete August 31 Submission (including the August 31 Letter) is available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab. The August 31 Letter indicates that it was sent on behalf of “the Indenture Trustee and certain of the sewer warrant holders and insurers,” which the August 31 Letter defines as the “Invitees.” The “Invitees,” in turn, are identified in the *Response of Indenture Trustee and the Named Warrant holders and Insurers to Jefferson County’s Invitation to Address the Jefferson County Commission at the Next Sewer Rate Hearing* [Docket No. 1131] (the “Invitation Response”) as the Indenture Trustee, JPMorgan Chase Bank, N.A., Bank of America, Bank of Nova Scotia, Société Générale, Bank of New York Mellon, State Street Bank and Trust Company, Lloyds TSB Bank plc, Assured Guaranty Municipal Corp. and Syncora Guarantee Inc.

“urge[s] the Commission and its consultants to review and consider carefully all relevant information, including the information” comprising the August 31 Submission, *id.* at 2; to wit:

- the Trust Indenture between Jefferson County, Alabama, and AmSouth Bank of Alabama, dated as of February 1, 1997 (the “Indenture”);
- the Invitation Response;
- the Red Oak Consulting Final Technical Report, dated January 31, 2007 (the “Red Oak Report”);
- the Comprehensive Wastewater Cost of Service and Rate Study Report, dated February 3, 2010 (the “Raftelis Report”);
- the BE&K 2003 Final Report (the “BE&K Report”);
- the Paul B. Krebs & Associates Report, dated November 5, 2002 (the “Krebs Report”);
- the Paul B. Krebs & Associates Revenue Analysis, dated March 31, 2003 (the “Krebs Revenue Analysis”);
- an earlier draft of the Krebs Revenue Analysis, dated March 13, 2003 (the “Krebs Draft”);
- a draft expert report from Raftelis Financial Consultants, dated 2008 (the “Raftelis Draft”);
- the Report of the Special Master, dated January 20, 2009 (the “Special Master Report”);
- the Receiver’s First Interim Report on Finances, Operations, and Rates of the Jefferson County Sewer System, dated June 14, 2011 (the “Receiver Report”);
- a Resolution of the Commission, dated December 16, 2008;

- a “chart describing the consultants’, Special Masters’, and Receiver’s rate setting recommendations between 2002 and 2011, as compared to the County’s actual rates during that period” (the “Trustee Comparison Chart”);
- a memorandum opinion (the “Proctor Decision”), dated June 12, 2009, in the case captioned *The Bank of New York Mellon, et al. v. Jefferson County, Alabama, et al.*, Case No. 2:08-cv-01703-RDP (N.D. Ala.) (the “Federal Receivership Case”);
- an order (the “Receiver Order”), dated September 22, 2010, in the case captioned *The Bank of New York Mellon, et al. v. Jefferson County, Alabama, et al.*, Case No. CV-2009-02318 (Ala. Cir. Ct.) (the “State Receivership Case”);
- a draft settlement term sheet dated as of September 14, 2011 (the “September 2011 Term Sheet”);
- excerpts from the transcript of Peiffer Brandt’s May 10, 2010 deposition in the State Receivership Case;
- excerpts from the transcript of Eric Rothstein’s August 23, 2010 deposition in the State Receivership Case;
- a letter from Peiffer Brandt to Patrick Darby, dated March 5, 2009;
- excerpts from the transcript of a hearing held February 25, 2009 in the Federal Receivership Case;
- excerpts from the transcript of a hearing held June 1, 2009 in the Federal Receivership Case; and
- a set of typed notes, dated October 15, 2009.

Aug. 31 Letter at 2-3. The Responding Creditors state that these materials “make[] clear that System Revenues can and should be increased, and that the County has an obligation to do so.” *Id.* at 3.

Additionally, the Responding Creditors state that the August 31 Letter is “being submitted in an effort to correct a number of the County’s current assumptions and conclusions about sewer bills and the impact on System customers.” *Id.* In this regard, the August 31 Letter states that Eric Rothstein (a witness at the second public sewer rate hearing) and Professor Stephanie Rauterkus (a witness at the first public sewer rate hearing) used inaccurate figures when comparing sewer rates in Jefferson County to sewer rates elsewhere. *Id.* at 3-4. Specifically, the Responding Creditors state that Mr. Rothstein “calculated that a monthly bill for a Jefferson County customer would be almost \$63.00 if that customer used 10 ccf of water per month,” whereas “the average water usage for Jefferson County sewer customers is closer to 6 ccf per month, which would result in an average monthly sewer bill closer to \$38.00.” *Id.* at 3. Similarly, the Responding Creditors assert that although Dr. Rauterkus “assumed the average water usage for Jefferson County Sewer customers is approximately 6 ccf per month,” she “then assumed that 6 ccf is the same average monthly usage for the other communities in her comparison” – notwithstanding that other communities may have different levels of water usage. *Id.* at 3-4.

Finally, the August 31 Letter notes that “there may be a number of different rate structures that could be implemented that would allow the County to meet its obligations to the Warrantholders and to its residents,” including “mandatory hook up [requirements], reserve capacity fees, clean water fees, or other non-user fees,” which could reduce “the rate increases needed to achieve the necessary revenue increases” urged by the Responding Creditors. *Id.* at 4.

The August 31 Letter concludes by observing that “a negotiated resolution may also be a way for the County and the Warrantholders to address these matters in the context of a consensual plan of adjustment.” *Id.*

4. Next Steps

The Commission greatly appreciates the contributions to the public hearing process made by the four invited witnesses (Prof. Rauterkus and Messrs. Denard, Rothstein and LeFleur), the 18 concerned citizens and ratepayers who personally appeared over the course of three public hearings, and the key creditor constituencies who offered detailed discussions of the issues and collected and submitted more than 1,000 pages of pertinent materials. As expressed in the County Manager’s personal invitations to assist and participate in this process, “[t]he Commission is committed to proceeding on the basis of the very best information and expertise available, gleaned [through] public hearings at which everyone affected by the sewer system and sewer rates and charges has the opportunity” to be heard. *Notice of Invitations to Address the Jefferson County Commission at the Next Sewer Rate Hearing* [Docket No. 1090] Exs. A-K at 1. By providing their considered testimony, commentary and evidence, the distinguished witnesses, public, and creditors have greatly assisted the Commission in undertaking this important task.

All of the public hearing transcripts, witness presentations, and materials submitted by interested parties are now being assembled into a single complete, official record (the “Record”), which will form the basis on which the Commission will act. As noted previously, this procedural safeguard is intended to ensure that the rate-setting process is open and transparent, and that the basis on which the Commission acts is clearly articulated and not open to question.⁵

⁵ See generally First Report at 6 (“[T]he Commission is committed to ensuring that whatever result it reaches is supported by substantial evidence, and is not arbitrary or discriminatory. Thus, Commission will examine the relevant data and articulate a satisfactory explanation for its action, including a rational connection between the facts
(footnote continued on next page)

The Commission is guided in this regard by analogous principles set out in the Alabama Administrative Procedure Act, ALA. CODE §§ 41-22-1, *et seq.* (the “APA”), including the fundamental belief that proper procedures lead to better substantive results. *E.g.*, ALA. CODE § 41-22-2(c) (“[The APA] is not meant to alter the substantive rights of any person or agency. Its impact is limited to procedural rights with the expectation that better substantive results will be achieved in the everyday conduct of state government by improving the process by which those results are attained.”).

The Commission – in consultation with the County’s experts and professionals – is now considering the Record and applicable law, and will consider an amendment to the *Jefferson County Sewer Use/Pretreatment Ordinance* adopted May 11, 1982, as amended through March 31, 2009 (the “Sewer Use and Pretreatment Ordinance”).⁶ The proposed amendment will be released, considered and acted upon in accordance with all applicable rules and practices of order and procedure, including the requirement in section 6(a) of Act 619, 1949 Ala. Laws 949, *et seq.* (approved Sept. 19, 1949), of a “public hearing or hearings” held by the Commission “at least seven days after . . . published notice” of the proposal. Notice will include docket notice in this case.

found and the choice made. The record being developed at the public hearings will ensure that the Commission does not entirely fail to consider an important aspect of the problem, offer an explanation for its decision that runs counter to the evidence before it, or rely on any impermissible factors.” (internal quotation marks, citations and alterations omitted); Second Report at 5-6 (reiterating the Commission’s intent to act “on the basis of the testimony, evidence and public comments received during and in connection with [the] public sewer rate hearings”).

⁶ A copy of the Sewer Use and Pretreatment Ordinance is attached hereto as Exhibit D, and is also available free of charge at www.jeffcosewerhearings.org, under the “Documents” tab.

5. Conclusion

The County will file its next Status Report on or before October 28, 2012, consistent with the Interim Order.

Respectfully submitted this 12th day of September, 2012.

By: /s/ Patrick Darby

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ENVIRONMENTAL SERVICES DEPARTMENT

JEFFERSON COUNTY
SEWER USE/PRETREATMENT ORDINANCE
ADOPTED MAY 11, 1982
AS AMENDED THROUGH MARCH 31, 2009



JEFFERSON COUNTY COMMISSION

Bettye Fine Collins - President
Jim Carns - Environmental Services
William A. Bell, Sr. - Health and Community Services
Bobby G. Humphries - Roads and Transportation
Shelia Smoot - Information Technology

**JEFFERSON COUNTY
SEWER USE/PRETREATMENT ORDINANCE
ADOPTED MAY 11, 1982
AS AMENDED THROUGH MARCH 31, 2009**

This document is provided as a convenience to the public. The official ordinance and amendments thereto are contained in the office of the Minute Clerk of Jefferson County in Minute Book 61, pages 237-264, Minute Book 63, pages 203-204, Minute Book 65, page 162, Minute Book 65, page 195, Minute Book 69, pages 363-364, Minute Book 72, pages 79-81, Minute Book 97, pages 214 – 216, Minute Book 109, pages 282-284, Bessemer Minute Book 6, pages 256-260, Minute Book 123, pages 343-344, Minute Book 126, page 467, Minute Book 132, pages 202-204, Minute Book 140, page 149, Minute Book 144, pages 349-353, and Minute Book 157, pages 577-578, with additional amendments adjusting the User Charges on January 1, 2003 and January 1, 2004. In the event of a discrepancy between any words or figures contained in this document and those contained in the official minutes of the Jefferson County Commission, the words and figures reflected in the official minutes shall govern. Due to the fact that the ordinance is frequently amended, users of this document are specifically cautioned not to rely on the exact wording or figures contained herein as a basis for expenditures or irrevocable decisions without first verifying such words or figures in the office of the Minute Clerk, Jefferson County, Alabama.

**JEFFERSON COUNTY SEWER USE/PRETREATMENT
ORDINANCE**

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ARTICLE I - GENERAL PROVISIONS

A. PURPOSE AND POLICY

This Ordinance sets forth uniform requirements for all users of the wastewater collection and treatment system for Jefferson County, Alabama, and enables the County to comply with all applicable State and Federal laws required by the Clean Water Act of 1977 and the general Pretreatment Regulations (40 CFR, Part 403). It should be noted that the Jefferson County Government for purposes of this Ordinance will not be considered a user and for that reason is exempted from the provisions of this Ordinance; however, the County will provide necessary pretreatment at its own facilities.

The objectives of this Ordinance are:

- (a) to prevent the introduction of pollutants into the County Wastewater system which will interfere with the operation of the system or contaminate the resulting sludge;
- (b) to prevent the introduction of pollutants into the County Wastewater system which will pass through the system, inadequately treated, into receiving waters or the atmosphere or otherwise be incompatible with the system;
- (c) to improve the opportunity to recycle and reclaim wastewaters and sludge from the system; and
- (d) to provide for equitable distribution of the cost of the County wastewater system.

This ordinance provides for the regulation of all contributors to the County wastewater system through the issuance of permits to certain non-domestic users and through enforcement of general requirements for the other users, authorizes monitoring and compliance activities, requires user reporting, and provides for the setting of fees for the equitable distribution of costs resulting from the program established herein.

This ordinance shall apply to Jefferson County and to persons outside the County who are, by contract or agreement with the County, users of the County sewer system. This ordinance is a revision to the Sewer Use Ordinance adopted January 24, 1977. Except as otherwise provided herein, Jefferson County shall administer, implement, and enforce the provisions of this ordinance.

B. DEFINITIONS

1. "ADEM" shall mean Alabama Department of Environmental Management or its duly authorized deputy, agent, or representative.
2. "Act", "The Act", or "CWA" shall mean the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, U.S.C. 1251, ET. Seq.

3. "Approval Authority" shall mean the Alabama Department of Environmental Management.
4. "Authorized Representative of an Industrial User" shall mean any one of the following: (1) A principal executive officer of at least the level of Vice-President, if the industrial user is a corporation; (2) A general partner or proprietor if the industrial user is a partner or proprietorship, respectively; (3) A duly authorized representative of the individual above if such representative is responsible for the overall operation of the facilities from which the discharge originates.
5. "BOD" (denoting biochemical oxygen demand), shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at 20 degrees C., expressed in milligrams per liter by weight. BOD shall be determined by standard methods as hereinafter defined.
6. "Categorical Standards" shall mean the National Categorical Pretreatment Standards or Pretreatment Standard.
7. "CFR" denotes Code of Federal Regulations.
8. "COD" denotes Chemical Oxygen Demand.
9. "Composite Sample" shall mean the makeup of a number of individual samples, so taken as to represent the nature of wastewater or industrial wastes.
10. "Constituents" shall mean the combination of particles, chemicals or conditions, which exist in the wastewater.
11. "Control Authority" shall refer to ADEM.
12. "Cooling Water" shall mean the water discharged from any use such as air conditioning, cooling or refrigeration, or to which the only pollutant added is heat.
13. "County" shall mean Jefferson County Commission or its duly authorized agent, deputy or representative.
14. "Direct Discharge" shall mean the discharge of treated or untreated wastewater directly to the waters of the State of Alabama.
15. "Effluent" shall mean the discharge of flow from an industry or a treatment plant facility.
16. "EPA" shall mean the U.S. Environmental Protection Agency, or where appropriate, the term may also be used as a designation for the Regional Administrator or other duly authorized official of said agency.

17. "Flammable" shall be defined by existing fire regulations covering the County.
18. "Grab Sample" shall mean a sample, which is taken from a waste stream on a one-time basis with no regard to the flow in the waste stream.
19. "Holding Tank Waste" shall mean any waste from holding tanks such as vessels, campers, chemical toilets, trailers, septic tanks, and vacuum pump trucks.
20. "Impact Connection Fee" shall mean the charge assessed against the sewer customer within or without the County that are connected to, or have access to, the County sewage system.
21. "Indirect Discharge" shall mean the discharge or introduction of non-domestic pollutants from any source regulated under Section 307(b) or (c) of the Act, into the sewer system (including holding tank waste discharged into the system).
22. "Industrial User" shall mean any industry producing liquid waste, discharging either with or without pretreatment, into the County sewer system.
23. "Industrial Plant Site" shall mean a parcel of land occupied by a facility, which discharges industrial wastes.
24. "Industrial Sewer Connection Application" shall mean the application required to be filed by all industrial contributors or potential industrial contributors who intend to connect to the sewer system. This request shall be on forms provided by the County, which specify the quantity, strengths, and any special qualities of their industrial waste.
25. "Industrial Waste Surcharge" shall mean the additional service charge assessed against industries in the County service area whose waste characteristics exceed those of normal wastewater as defined in the context of this ordinance.
26. "Influent" shall mean the wastewaters arriving at a County wastewater treatment plant for treatment.
27. "Interference" shall mean the inhibition or disruption of the County sewer system's treatment processes, operations, or sewer system, which contributed to a violation of any requirements of its NPDES permit. The term includes prevention of sewage sludge use or disposal by the County in accordance with Section 405 of the ACT, or any criteria, guidelines or regulations developed pursuant to the Solid Waste Disposal Act (SWDA), the Clean Water Act, the Toxic Substances Control Act, or more stringent State criteria (including those contained in any State sludge management regulation pursuant to title IV or SWDA) applicable to the method of disposal or use employed by the County.
28. "l" denotes liter.

29. "MBAS" denotes methylene-blue-active substance.
30. "Metered Water" shall mean the quantity of all sources of water, including water from wells, consumed by the sewer customer (see Article VI).
31. "mg/l" denotes milligrams per liter and shall mean ratio by weight.
32. "National Pollution Discharge Elimination System Permit" or "NPDES Permit" shall mean a permit issued to the County pursuant to Section 402 of the Act (33 U.S.C. 1342).
33. "National Pretreatment Standard" shall mean any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and (c) of the ACT which applies to industrial users.
34. "Natural Outlet" shall mean any outlet used to dispose of liquid waste, which ultimately flows or leads into a watercourse, pond, ditch, lake, or other body of surface or ground water.
35. The publication of proposed regulations prescribing a Section 307(c) categorical pretreatment standard which will be applicable to such source, if such standard is thereafter promulgated within 120 days of proposal in the Federal Register. Where the Standard is promulgated later than 120 days after proposal, a New Source shall mean any source, the construction of which is commenced after the date of promulgation of the standard.
36. "pH" shall mean the logarithm of the reciprocal of the concentration of the hydrogen ion. pH shall be determined by standard methods as hereinafter defined.
37. "Person" or Owner" shall mean any individual, firm, company, joint stock company, association, society, corporation, group, partnership, co-partnership, trust, estate, governmental or legal entity, or their assigned representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by context.
38. "Pollutant" shall mean any dredged spoil, solid waste, incinerator, residue, sewage garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water.
39. "Pretreatment" shall mean the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in a wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into the County sewer system. The reduction or alteration can be obtained by physical, chemical, or biological processes, process changes, or other means except as prohibited by 40 CFR Section 403.6(d).

40. "Pretreatment Requirement" shall mean any substantive or procedural requirement related to pretreatment, other than a National Pretreatment Standard imposed on an industrial user.
41. "Receiving Waters" shall mean those waters into which treated effluents are discharged.
42. "Residential or Domestic User" shall mean a premise or person who discharges wastewater to the County sewers, that is of a volume and strength typical for residences and further for billing purposes, is defined as a dwelling place or place of residence.
43. "SWDA" denotes the Solid Waste Disposal Act, 42 U.S.C. 6901, ET. SEQ.
44. "Sanitary Sewer" shall mean a sewer, which carries wastewater, and from which storm, surface, and ground waters are intended to be excluded.
45. "Sewer System" or "County Sewer System" shall mean a treatment works as defined by Section 212 of the Act (33 U.S.C. 1292) which is owned by the County. This definition includes any sewer that conveys wastewater to such treatment works, but does not include pipes, sewer, or other conveyances not connected to a facility providing treatment. The term shall also mean Jefferson County, which has jurisdiction over the indirect discharges to and the discharge from such a treatment works.
46. "Sewer" shall mean a pipe or conduit for carrying wastewater.
47. "Shall" is mandatory; "may" is permissive.
48. "Standard Industrial Classification" or "SIC" shall mean the classification pursuant to the Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget, 1972.
49. "Standard Methods" shall mean those sampling and analysis procedures established by and in accordance with EPA pursuant to Section 304(g) of the Act and contained in 40 CFR, Part 136, as amended or the "Standard Methods for the Examination of Water and Sewer" as prepared, approved, and published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation. In cases where procedures vary, the EPA methodologies shall supercede.
50. "Standard Strength" shall mean wastes of any origin having a content of 300 mg/l or less of 5-day, 20 degrees C. BOD, and/or containing 300 mg/l or less of suspended solids, and having no prohibited qualities for sanitary sewer system admission.

51. "S.I.D. Permit" shall mean a State Indirect Discharge permit issued by the ADEM. Such permits shall be issued to dischargers of non-domestic pollutants from any source, including but not limited to those regulated under Section 307(b) or (c) of the Act, to the County Sewer system.
52. "Storm Sewer" or "Storm Drain" shall mean a sewer which carries storm and surface waters and drainage, but excludes wastewater and polluted industrial wastes.
53. "Suspended Solids" shall mean solids that either float on the surface, or are in suspension in water, wastewater, or liquid as defined by standard methods.
54. "TOC" shall mean total organic carbon as determined by standard methods.
55. "TSS" shall mean total suspended solids.
56. "Total Solids" shall mean total weight mg/l or all solids: dissolved, undissolved, organic, or inorganic.
57. "Toxic" shall mean constituents of wastes, which adversely affect the organisms or other processes involved in wastewater treatment.
58. "County Treatment Plant" or "County Plant" shall mean that portion of the County's sewer system designed to provide treatment to wastewater.
59. "U.S.C." denotes Unites States Code.
60. "User" shall mean any individual or entity, including municipalities who contribute, causes, or permits the contribution of wastewater into the County's sewer system.
61. "Watercourse" shall mean a channel in which a flow of water occurs, either continuously or intermittently.
62. "Wastewater" shall mean any solids, liquids, gas, or radiological substance originating from residences, business buildings, institutions, and industrial establishments together with any ground water, surface water, and storm water that may be present, whether treated or untreated, which is contributed into or permitted to enter the County's sewer system.
63. "Waters of the State of Alabama" shall mean any water, surface or underground, within the boundaries of the State.
64. "All contributors" denotes anyone contributing wastewater to the collection and treatment systems of Jefferson County.

ARTICLE II - DISCHARGE PROHIBITIONS

A. GENERAL DISCHARGE PROHIBITIONS

No user shall contribute or cause to be contributed, directly, or indirectly, any pollutant or wastewater which will interfere with the operation or performance of the County's sewer system. These general prohibitions apply to all such users of the sewer system whether or not the user is subject to National Categorical Pretreatment Standards or any other National, State, or Local Pretreatment Standards or Requirements. A user may not contribute the following substances to the sewer system:

1. Any liquids, solids, or gases which by reason of their nature or quality are, or may be, sufficient alone or by interaction with other substances to cause fire or explosion or be injurious in any way to the sewer system or to the operation of the sewer system. At no time shall two successive readings on an explosive hazard meter, at the point of discharge into the system (or at any point in the system) be more than five percent (5%) nor any single reading over ten percent (10%) of the Lower Explosive Limit (LEL) of the meter. Prohibited materials include, but are not limited to: alcohols, aldehydes, benzene, bromates, carbides, chlorates, commercial solvents, ethers, fuel oil, gasoline, any hydrocarbon derivatives, hydrides, kerosene, ketones, mineral spirits, motor oils, naphtha, perchlorates, peroxides, sulfides, toluene, xylene and any other substances which the County, the State, or EPA has notified the User is a fire hazard to the system.
2. Any pollutants which will cause corrosive structural damage to the sewer system (in no case with a pH less than 5.0 or higher than 9.0) or wastewater having other corrosive property capable of causing damage or hazard to structures, equipment, and/or personnel of the sewer system.
3. Solid or viscous substances in amounts which may cause obstruction to the flow in a sewer or other interference with the operation of the sewer system such as, but not limited to: garbage with particles greater than 1/2 inch, ashes, cinders, animal guts or tissues, paunch, manure, offal, bones, hair, hides or fleshings, entrails, whole bloods, beer or distillery slops, milk residue, ice cream, sugar syrups, feathers, sand, lime residues, stone or marble dust, metal, glass, straw, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, fiberglass, paint or ink residues, gas, tar, asphalt residues, chemical residues, residues from refining or processing of fuel or lubricating facilities, cannery waste, mud, glass grinding waste, polishing waste; any water or waste which contains more than 150 mg/L of mineral oil or grease, or 150 mg/L of animal or vegetable fats, oils, or grease; or any water or waste which contains a substance that will solidify or become viscous at temperatures between 32 degrees and 90 degrees F.
4. Any pollutants, (BOD, etc.) released at a flow and/or pollutant concentration which will cause interference to the sewage treatment process (see Section F).

5. Any wastewater having a temperature, which will inhibit biological activity in the sewer system resulting in interference, but in no case wastewater with a temperature at the introduction into wastewater treatment plant which exceeds 40 degrees C (104 degrees F). No user shall discharge into any sewer line or appurtenance of the sewer system wastewater with a temperature exceeding 65.5 degrees C (150 degrees F). More stringent limitations may be required if the POTW processes are adversely affected by lesser temperatures.
6. Any wastewater containing toxic pollutants with either singly or by interaction with other pollutants, would injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a toxic effect in the receiving waters of the sewer system, or to exceed the limitations set forth in a Categorical Pretreatment Standard. A toxic pollutant shall include but not be limited to any pollutant identified pursuant to Section 307(a) of the Act.
7. Any noxious or malodorous liquids, gases, or solids which whether singularly or by interaction with other wastes are sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the sewers for their maintenance and repair.
8. Any substance which may cause the County treatment plant effluent or any other produce of the County treatment plant such as residues, sludge, or scum, to be unsuitable for reclamation and reuse or to interfere with the reclamation process where the County is pursuing a reuse and reclamation program. In no case shall a substance discharged to the County sewer system cause the County to be in non-compliance with sludge use or disposal criteria, guidelines, or regulations developed under Section 405 of the Act; any criteria, guidelines, or regulations affecting sludge use or disposal developed pursuant to the Solid Waste Disposal Act, or State criteria applicable to the sludge management method being used.
9. Any substance, which will cause the County to violate its NPDES and/or State Disposal System Permit or the receiving water quality standards.
10. Any wastewater with color that cannot be removed by the County's wastewater treatment plant.
11. Any liquid or wastewater containing quantities of radioactive waste in excess of presently existing or subsequently accepted limits for drinking water as established by applicable State or Federal regulations.

B. PROHIBITIONS ON STORM DRAINAGE, GROUND WATER AND COOLING WATER

Storm water, ground water, rain water, street drainage, roof top drainage, cooling water of any type, basement drainage, sump pumpings, sub-surface drainage, or yard drainage shall not be discharged through direct or indirect connections to the sewer system.

C. NATIONAL PRETREATMENT STANDARDS

Certain industrial users, (as defined by EPA in the General Pretreatment Regulations published in the June 26, 1978 Federal Register titled Part 403 General Pretreatment Regulations and any revision thereof) are or hereafter shall become subject to National Categorical Pretreatment Standards promulgated by the EPA specifying quantities or concentrations of pollutants or pollutant properties which may be discharged into the sewer system. All industrial users subject to a National Categorical Pretreatment Standard shall comply with all requirements of such standard and shall also comply with any additional or more stringent limitations contained in this Article. Compliance with National Categorical Pretreatment Standards for existing sources subject to such standards or for existing sources which hereafter become subject to such standards shall be within three (3) years following promulgation of the standards unless a shorter compliance time is specified in the standard. Compliance with National Categorical Pretreatment Standards for new sources shall be required upon promulgation of the Standard. Except where expressly authorized by an applicable National Categorical Pretreatment Standard, no industrial user shall increase the use of process water or in any way attempt to dilute a discharge as a partial or complete substitution for adequate treatment to achieve compliance with such standard.

D. FIXED UPPER LIMITS ON WASTEWATER CONSTITUENTS

Following herewith are maximum discharge concentrations for any industrial user of the Jefferson County Sewerage System. The limits are subject to change by the Environmental Protection Agency, Alabama Department of Environmental Management, and Jefferson County. Such change may occur thorough changes imposed by National Categorical Pretreatment Standards or by Jefferson County's determination that interference exists in any of the County's wastewater treatment plants by reason of any limit set forth herein or by case-specific considerations.

**PPER DISCHARGE LIMITS
FOR INDUSTRIAL USERS
INTO COUNTY WWTPS**

**SUGGESTED
DESIGN
CRITERIA**

PARAMETER	<u>DAILY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>DAILY AVERAGE</u>	<u>DAILY MAXIMUM</u>
Aluminum, Dissolved	25.0 mg/L	50.0 mg/L	5.0 mg/L	10.0 mg/L
Cadmium, Total	0.3 mg/L	0.3 mg/L	0.1 mg/L	0.2 mg/L
Chromium +6	0.1 mg/L	0.2 mg/L	0.1 mg/L	0.2 mg/L
Chromium, Total	2.5 mg/L	5.0 mg/L	0.5 mg/L	1.0 mg/L
Copper, Total	0.5 mg/L	1.0 mg/L	0.5 mg/L	1.0 mg/L
Cyanide, as CN or HCN	0.5 mg/L	1.0 mg/L	0.1 mg/L	0.2 mg/L
Iron, Total	10.0 mg/L	20.0 mg/L	3.0 mg/L	6.0 mg/L
Lead, Total	0.5 mg/L	0.5 mg/L	0.1 mg/L	0.2 mg/L
Nickel, Total	0.5 mg/L	1.0 mg/L	0.5 mg/L	1.0 mg/L
Silver, Total	0.25 mg/L	0.5 mg/L	0.05 mg/L	0.1 mg/L
Tin, Total	5.0 mg/L	10.0 mg/L	0.1 mg/L	0.2 mg/L
Zinc, Total	1.8 mg/L	3.6 mg/L	0.8 mg/L	1.6 mg/L
Arsenic		0.10 mg/L		
Ammonia		25.0 mg/L		
Barium		1.0 mg/L		
Chlorides		200.0 mg/L		
Detergents ABS (Hard)		*		
Detergents (Soft)		*		
Detergents (Biodegradable)		*		

**PPER DISCHARGE LIMITS
FOR INDUSTRIAL USERS
INTO COUNTY WWTPS**

**SUGGESTED
DESIGN
CRITERIA**

PARAMETER	<u>DAILY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>DAILY AVERAGE</u>	<u>DAILY MAXIMUM</u>
Fluorides		1.50 mg/L		
Radioactivity Gross Beta		1000 Pico curies		
RA 226		3 Pico curies/L		
SR 90		10 Pico curies/L		
Mercury		0.01 mg/L		
Molybdenum		0.10 mg/L		
Phenol		1.00 mg/L		
Phosphate		30.00 mg/L		
Selenium		0.10 mg/L		

* No limits presently determined. If and when these other limitations are determined, they shall be incorporated into this Ordinance by action of the County Commission.

The limits set out above shall control but are subject to change by the Environmental Protection Agency, Alabama Department of Environmental Management, and Jefferson County. Such change may occur through changes imposed by National Categorical Pretreatment Standards or by Jefferson County's determination that an interference exists in any of the County's Wastewater Treatment Plants by reason of any limit set forth herein or by case-specific consideration.

E. STATE REQUIREMENTS

State requirements and limitations on discharges shall apply in any case where they are more stringent than Federal requirements and limitations of those in this ordinance.

F. EXCESSIVE DISCHARGE

No user shall ever increase the use of process water or, in any way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the National Categorical Pretreatment Standards, or in any other pollutant specific limitation developed by the County or State without prior written approval by the County. Where necessary in the opinion of the County, flow equalization facilities may be required to eliminate peak flow concentration conditions, which could overload the sewers or treatment plants. Said equalization units shall have a capacity judged by the County to allow controlled discharge of the flow at such a rate which will eliminate peak flow conditions. Detailed equalization, facility plans, specifications and operating procedures shall be submitted to the County for review and recommendations in a specified format. However, the County shall not approve the submittal for performance.

G. POSSIBLE INHIBITORY DISCHARGES

If any waters or wastes are proposed to be discharged to the sewer system which contain the substances or possess the characteristics either enumerated or not enumerated in the preceding Section of this Article, and which in the judgment of the County and/or the State and Federal agencies having jurisdiction may cause an interference with the sewer system, the sludge, receiving waters, or which may otherwise create a hazard to life or constitute a public nuisance, the County may:

- (1) reject the wastes in accordance with Article III of this Ordinance
- (2) for industries affected by the categorical pretreatment standards, require pretreatment to an acceptable condition for discharge to the public sewers and state a compliance date which in no case shall exceed three (3) years but may be sooner if so stated in the National Categorical Pretreatment Standards
- (3) require control over the quantities and rates of discharge, and/or
- (4) require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges. Such payments shall be as specified in Article VII.

If the County or ADEM requires or permits the pretreatment or equalization of waste flows, the design and installation of the plants and equipment may be reviewed by the County, ADEM, and Federal Agencies having jurisdiction. In any case, the design and installation shall be subject to the requirements of all applicable codes, resolutions, and laws.

H. ACCIDENTAL DISCHARGES

H.1 GENERAL

Each industrial user shall provide protection from accidental discharge or prohibited materials or other substances regulated by this Ordinance. Facilities to prevent accidental discharge or prohibited materials shall be provided and maintained at the owner's or user's own cost and expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the County for review and comment. However, the County's view and comment shall in no way be interpreted as a performance approval of such facilities. All existing industrial users shall complete such a plan by January 1, 1983. No new industrial users who commence this contribution to the sewer system after the effective date of this Ordinance shall be permitted to introduce pollutants into the system until accidental discharge procedures have been reviewed and approved by the County and implemented by the user. Review of such plans and operating procedures shall not relieve the industrial user from the responsibility to modify the user's facility as necessary to meet the requirements of this Ordinance. In the case of an accidental discharge, it is the responsibility of the user to immediately telephone and notify County personnel of the incident by calling the 24 hour Sewer Line Maintenance phone number at (205) 942-0681. The notification shall include: 1) time of discharge, 2) location of discharge, 3) type of waste, 4) concentration and volume, 5) corrective action being taken, 6) company name, 7) contact official, and 8) phone number.

H.2 WRITTEN NOTICE

Within five (5) days following an accidental discharge, the user shall submit to the County and ADEM a detailed written report which shall include: 1) company names, 2) contact official, 3) date, time, and type of water discharged, 4) corrective actions taken at the time of the discharge and degree of success, 5) a determination that the cause of the discharge was of mechanical or human nature, 6) a detailed description of new or modified actions which will be instituted to prevent such an occurrence from happening again, and 7) a timetable for implementing the corrective actions. Such notification shall not relieve the user of any expense, loss, damage or other liability which may be incurred by the County as a result of damage to the sewer system, fish kills, or any other damage to person or property; nor shall such notification relieve the user of any fines, civil penalties, or other liability which may be imposed by this Ordinance or other applicable law.

H.3 NOTICE TO EMPLOYEES

A notice shall be permanently placed on the user's bulletin board or other prominent place advising employees whom to call in the event of a prohibited discharge. Employers shall insure that all employees, who may cause or suffer an occurrence of such a discharge are advised of the emergency notification procedure.

I. HAZARDOUS WASTES

It is a violation of this Ordinance to discharge or cause to discharge any material identified as a hazardous waste by the May 19, 1980 Environmental Protection Agency Hazardous Waste Resolution, Part 261, or any revision thereof. This prohibition extends to all wastes identified in Subpart D regardless of the quantity of hazardous material stored or generated.

J. MISCELLANEOUS

No variances or credit provisions have been established by this Ordinance as the County shall not deviate from the discharge prohibitions contained in this Article.

ARTICLE III - ENFORCEMENT AND ABATEMENT

A. PUBLIC VIOLATION

Discharge of waste in any manner in violation of this Ordinance or of any condition of an S.I.D. permit may be corrected and abated as provided for specifically in this Article or elsewhere in the Ordinance.

B. VIOLATION NOTIFICATION

Whenever the County determines or has reasonable cause to believe that a discharge of wastewater has occurred in violation of the provisions of this Ordinance, an S.I.D. permit, or any other applicable law or regulation, it shall notify the ADEM and user of such violation. Failure of the County to provide notice to the user shall not in any way relieve the user from consequences of a wrongful or illegal discharge.

C. CONCILIATION MEETINGS

The County and ADEM may, but shall not be required to, invite representatives of the user to a conciliatory meeting to discuss the violation and methods of correcting the cause of the violation. Such additional meetings as the County and ADEM may deem advisable may be held to resolve the problem. If the County, ADEM, and user can agree to appropriate remedial and preventative measures, they shall commit such agreement in writing with provisions for a reasonable compliance schedule and the same shall be incorporated as a supplemental condition of the user's S.I.D. permit.

D. SHOW CAUSE HEARING

The ADEM may issue a show cause notice to the user at a specified date and time to show cause why the user's S.I.D. permit should not be modified, suspended, or revoked for causing or suffering violation of this Ordinance, or other applicable law or regulation, or conditions in the S.I.D. permit of the user. If the County seeks to modify the user's S.I.D. permit to establish wastewater characteristic limitations or other control techniques to prevent future violations, it shall notify the user of the general nature of the recommended actions it shall make to the ADEM. The ADEM will act with the authority vested in it by the U.S. Environmental Protection Agency under PL 92-500 and the provisions of the General Pretreatment Regulations published in the June 26, 1978 Federal Register or any revision thereof.

E. REFERRAL TO ATTORNEY GENERAL

At its discretion, or based on the County's recommendation, the ADEM may refer a case to the State of Alabama Attorney General's office. Such an action shall be initiated due to a user's violation of a Categorical Standard or the conditions of the user's S.I.D. permit.

F. INJUNCTIVE RELIEF

The County, or the ADEM upon recommendation by the County, may in the name of Jefferson County, file in Circuit or Chancery Court of Jefferson County, or such other courts as may have jurisdiction, a suite seeking the issuance of an injunction, damages, or other appropriate relief to enforce the provisions of this ordinance or other applicable law or regulation. The ADEM will be primarily concerned with enforcement of the "Categorical Standards" portions of this Ordinance. It will normally be the responsibility of the County to determine when the ADEM will become involved in any enforcement or abatement action.

G. ASSESSMENT OF DAMAGES TO OTHERS

When a discharge of waste causes an obstruction, damage, or any other impairment to the facilities, or any expense of whatever character or nature to the County, the County may assess to the offender the expense incurred by the County. The County may file a claim with the user or any other person causing said damage seeking reimbursement for any and all expenses or damages suffered by the County. If the claim is ignored or denied, the County shall notify its attorney to take such measures as shall be appropriate to recover for any expense or other damages suffered by the County including the costs of collecting such damage.

H. PETITION FOR FEDERAL OR STATE ENFORCEMENT

In addition to other remedies of enforcement provided herein, the County may petition the United States Environmental Protection Agency to exercise such methods or remedies as shall be available to such government entities to seek criminal or civil penalties, injunctive relief, or such other remedies as may be provided by applicable Federal or State laws to insure compliance by industrial users with applicable pretreatment standards, to prevent the introduction of toxic pollutants or other regulated pollutants into the sewer system, or to prevent such other water pollution as may be regulated by State or Federal law.

I. EMERGENCY TERMINATION OF SERVICE

In the event of an actual or threatened discharge to the sewer system of any pollutant which in the opinion of the Commissioner of Environmental Services, the County Engineer, the County Sanitary Engineer, or other designated agents, presents or may present substantial danger to the health or welfare of persons, or causes an interference to the sewer system, the County shall immediately notify the Alabama Department of Environmental Management of the nature of the emergency. The County shall also attempt to notify the Industrial User or other person causing the emergency and request their assistance in abating the same. The County may also temporarily terminate the service of such user or users as are necessary to abate the condition. Such service may be restored by the County at the user's expense as soon as the emergency situation has been abated or corrected.

J. TERMINATION OF SERVICE

The County may disconnect a user from the system when:

- (1) the EPA or ADEM informs the County that the effluent from the wastewater treatment plant is no longer of quality permitted for discharge to a watercourse, and it is found that the user is delivering wastewater to the County's sewer system that cannot be sufficiently treated or requires treatment that is not provided by the County as normal domestic treatment.
- (2) the user:
 - (a) discharged industrial waste or wastewater that is in violation of the S.I.D. permit used;
 - (b) discharges any substance to the sewer defined in Article II as being prohibited;
 - (c) discharges any wastewater at an uncontrolled, variable rate in sufficient quantity to cause an imbalance in the sewer system;
 - (d) fails to pay quarterly or monthly bills for sanitary service when due;
 - (e) repeats a discharge or prohibited constituents to the sewer system.
- (3) If the service is discontinued pursuant to this Section, the County shall:
 - (a) disconnect the user at the user's expense;
 - (b) continue disconnection until such time as the user provides additional pretreatment or other facilities designed to remove the interfering constituents from its wastes. Reconnection shall be at the discretion of the County and at the user's expense.

ARTICLE IV

S.I.D. PERMIT, DISCHARGE REPORTS, AND ADMINISTRATION

A. APPLICABILITY

The provisions of this Article are applicable to primary or significant industrial users, as defined by the ADEM, or any industrial user specified by the County. If, at the time of enactment of this Ordinance, Jefferson County has not consummated a Memorandum Agreement with the Alabama Department of Environmental Management pursuant to Code of Alabama 1975, Section 22-22-9. any permits issued hereunder to industrial users who are subject to or become subject to a "National Pretreatment Standard" as that term is defined in 40 CFR 403.3(i) shall be conditioned upon the Industrial User also complying with all applicable substantive and procedural requirements promulgated by the Environmental Protection Agency and the State of Alabama in regard to the "National Categorical Pretreatment Standards" or any other pollutants identified as "priority pollutants".

B. APPLICATION AND PERMIT REQUIREMENTS FOR INDUSTRIAL USERS

All primary and significant industrial users, as defined by the ADEM, or any industrial user specified by the County, of the sewer system, prior to discharging non-domestic waste into the sewer system shall simultaneously submit an application and engineering report to Jefferson County and the ADEM for the purpose of obtaining an S.I.D. permit. The original and one copy of said package shall be submitted to the ADEM while an additional two (2) copies shall be submitted to Jefferson County. The engineering report shall contain the information specified in Section IV, C., hereof. All original application packages shall also include a site plan, floor plan, mechanical and plumbing plans with sufficient detail to show all sewers and appurtenances in the user's premises by size, location, and elevation; and the user shall submit to the County and ADEM revised plans whenever alterations or additions to the user's premises affect said plans. Any currently connected user discharging waste other than domestic waste who has not heretofore filed such a report shall file same with the County and ADEM within ninety (90) calendar days of receiving notices from the County.

C. REPORT REQUIREMENTS

The report required by Section B. above or other provisions of this Article for all industrial users shall contain in units and terms appropriate for evaluation, the information listed in sub-sections (1) through (7) below. Industrial users subject to National Categorical Pretreatment Standards shall submit to the County and ADEM a report which contains the information listed in sub-section (1) through (10) below within one hundred and eighty (180) calendar days after the promulgation by the Environmental Protection Agency of a National Categorical Pretreatment Standard under Section 307(b) or (c) (33 U.S.C. 1317(b) or (c) of the Act.

Industrial users who are unable to achieve a discharge limit set forth in Article II hereof without improved operation and maintenance procedures or pretreatment shall submit a report which contains the information listed in subparagraph (1) through (10) of this paragraph. As specified therein above, the package shall be certified by a Professional Engineer registered in the State of Alabama and contain all or applicable portions of the following:

- (1) General information including name and affiliation of company, number of employees, product(s) to be manufactured, including rate of production and SIC number(s), hours of operation, and water supply and disposition.
- (2) Location map showing location of manufacturing plant (with section, township, range, latitude and longitude), treatment facilities and drainage, and indicating locations of each discharge point. In case of indirect discharges, location of sewer and point of industry tie-in should be shown.
- (3) Narrative account of manufacturing operation(s) explaining and or defining raw materials, processes and products. Blockline or schematic diagrams indicating points of waste origin and its collection and disposition should be included.
- (4) The average and maximum total flow of each discharge from such Industrial User to the sewer system, in gallons per day.
- (5) The average and maximum of both quantity and quality of the wastewater discharge from each regulated process from such industrial user and identification of any applicable Pretreatment Standards and Requirements. The concentration shall be reported as a maximum or average level as provided for in the applicable Pretreatment Standard. If an equivalent concentration limit has been calculated in accordance with a Pretreatment Standard, this adjusted concentration limit shall also be submitted to the ADEM for approval.

- (6) Description of existing waste treatment facilities including design basis, pretreatment measures, and recovery systems. Means of handling cooling water, storm drainage, and sanitary wastes should be discussed. Containment systems for product storage areas, loading and intermediate, or raw material handling areas, process areas, and other areas with spill potential should be described. Where applicable, the availability of a Spill Prevention Control and Containment (SPCC) Plan should be indicated.
- (7) When treatment sludges are generated, dewatering and handling methods, and location of disposal should be indicated. Quantity and analysis information should also be furnished.
- (8) In the case of new or expanded treatment systems, copies of logs for test borings in the vicinity of the treatment facility of earthen construction should be furnished to facilitate a geologic/hydrologic review.
- (9) A statement reviewed and signed by an authorized representative of the Industrial User indicating whether Pretreatment Standards are met on a consistent basis and, if not, whether additional operation and maintenance procedures or additional pretreatment is required for the Industrial User to meet the Pretreatment Standards and Requirements; and
- (10) If additional pretreatment or operation and maintenance procedures will be required to meet the Pretreatment Standards, then the report shall contain the shortest schedule by which the Industrial User will provide such additional pretreatment. The completion date in this schedule shall not be later than the completion date established for the applicable Pretreatment Standards.

For purposes of this Ordinance, when the context dictates, the phrase "Pretreatment Standard" shall include either a National Categorical Pretreatment Standard or a pretreatment standard imposed as a result of the user's discharging any incompatible waste regulated by Article II hereof. For purposes of this Ordinance the term "Pollutant" shall include any pollutant identified in a National Categorical Pretreatment Standard or any incompatible waste identified in Article II hereof.

D. INCOMPLETE APPLICATIONS

The ADEM will act only on applications that are accompanied by a report, which contains all the applicable information required in Section C above. Persons who have filed incomplete applications will be notified by the County that the application is deficient and the nature of such deficiency. If the deficiency is not corrected within thirty (30) days or within such extended period as allowed by the County, the County shall submit the application for a permit to notify the applicant in writing of such action.

E. EVALUATION OF APPLICATION

Upon receipt of the County's recommendation, the ADEM shall conduct its final evaluation of the completed applications and propose such special permit conditions as it deems advisable. All S.I.D. permits shall be expressly subject to all provisions of this Ordinance and all other applicable laws and regulations. Based on the County's recommendation, the ADEM may also propose that the S.I.D. permit be subject to one or more special conditions in regard to any of the following:

- (1) Pretreatment Requirements;
- (2) The average and maximum wastewater constituents and characteristics;
- (3) Limits on rate and time of discharge or requirements for flow regulations and equalization;
- (4) Requirements for installation of inspection and sampling facilities;
- (5) Specifications for monitoring programs, which may include sampling locations, frequency and method of sampling, number, types, and standards for tests and reporting schedule;
- (6) Requirements for submission of technical reports or discharge reports;
- (7) Requirements for maintaining records relating to wastewater discharge;
- (8) Mean and maximum mass emission rates, or other appropriate limits when incompatible pollutants (as set forth in Article II) are proposed or present in the user's wastewater discharge;
- (9) Other conditions as deemed appropriate by the County to insure compliance with this Ordinance, or other applicable law or regulation;
- (10) A reasonable compliance schedule as may be required by applicable law or regulation to insure the industrial user's compliance with pretreatment requirements or improved methods of operation and maintenance;
- (11) Requirements for the installation of facilities to prevent and control accidental discharge or "spill" at the user's premises.

F. APPLICANT'S NOTIFICATION OF DRAFT S.I.D. PERMIT; RIGHT TO OBJECT

- (1) Upon completion of its evaluation, the ADEM shall issue a draft S.I.D. permit with special conditions to be included.
- (2) The applicant shall have forty-five days from issuance of the ADEM draft S.I.D. permit to review same and mail a registered letter stating the objections to the County and ADEM. The ADEM may, but shall not be required to, schedule a meeting with the County and applicant's authorized representative within fifteen days following receipt of the applicant's objections, and attempt to resolve disputed issues concerning the draft S.I.D. permit.
- (3) If applicant files no objection to the draft S.I.D. permit or a subsequent agreement is reached concerning same, the ADEM shall issue a S.I.D. permit to applicant with such special conditions incorporated therein.

G. INDUSTRIAL SEWER CONNECTION

Upon submission of the S.I.D. permit application; Industrial User shall submit an Industrial Sewer Connection (I.S.C.) application to the County for the purpose of connecting the facility to the County sewer system. Upon determination that the capacity of the available existing County collection and treatment facilities are sufficient to accommodate applicant's waste and upon the user's receipt of an ADEM issued S.I.D. permit, the County shall issue applicant a permit authorizing such connection and permitting applicant to discharge wastewater from such premises to the County sewer system at the rate and in quantities stated therein. Upon receipt of such permit, applicants will thereafter be charged by the County at the rates established by resolution for the transportation and treatment of such wastewater. All connections shall be in full accordance with Article VIII contained herein.

H. COMPLIANCE SCHEDULING AND REPORTING REQUIREMENTS

The following conditions shall apply to the requirements enumerated by Sections C and E of this Article:

- (1) The schedule shall contain certain increments of progress in the form of calendar dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment requirements for the industrial user to meet the applicable Pretreatment Standards (e.g., hiring an engineer, completing preliminary plans, completing final plans, executing contract for major components, commencing construction, completing construction, etc.).
- (2) No increment referred to in Section H (1) of this Article shall exceed nine (9) months.

- (3) Not later than fourteen (14) days following each date in the schedule and the final date for compliance, the industrial user shall submit a progress report to the County and the ADEM including, as a minimum, whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for the delay, and steps being taken by the industrial user to return the construction to the schedule established. In no event shall more than nine (9) months elapse between such progress reports to the County and the ADEM.
- (4) Within ninety (90) days following the date for final compliance with applicable Pretreatment Standards or, in the case of a New Source, prior to commencement of the introduction of wastewater into the sewer system, any industrial user subject to Pretreatment Standards and Requirements shall submit to the County and the ADEM a report indicating the nature and concentration of all pollutants in the discharge from the regulated process which are limited by Pretreatment Standards and Requirements and the average and maximum daily flow for those process units which are regulated by such Pretreatment Standards or Requirements. The report shall state whether the applicable Pretreatment Standards or Requirements are being met on a consistent basis and, if not, what additional operation and maintenance procedure or pretreatment is necessary to bring the industrial user into compliance with the applicable Pretreatment Standards or Requirements. This statement shall be signed by an authorized representative of the industrial user as defined in Article I and certified to by a qualified Professional Engineer registered in the State of Alabama.
- (5) (a) Any industrial user subject to a Pretreatment Standard, after the compliance date of such Pretreatment Standard, or, in the case of a New Source, after commencement of the discharge into the sewer system, shall submit to the County and the ADEM during the months of June and December, unless required more frequently in the Pretreatment Standard or by the County and the ADEM, a report indicating the nature and concentration of pollutants in the effluent which are limited by such Pretreatment Standard. In addition, this report shall include a record of all daily flows which, during the reporting period, exceeded the average daily flow reported in Section C(4) of this Article. At the discretion of the County and the ADEM and in consideration of such factors as local high or low flow rates, holidays, budget cycles, etc., the County and the ADEM may agree to alter the months during which the above reports are to be submitted.
- (b) The County and ADEM, as applicable, may impose mass limitations on industrial users which are using dilution to meet applicable Pretreatment Standards or Requirements or in other cases where the imposition of mass limitations are appropriate. In such cases, the report required by subparagraph (a) of this paragraph shall indicate the mass of pollutants regulated by Pretreatment Standards in the effluent of the industrial user.
- (6) The Industrial User shall immediately notify the County of any such discharge as defined by Article II.A by calling (205) 942-0681.

- (7) The reports required in this Article shall contain the results of sampling and analysis of the discharge, including the flow and the nature and concentration, or production and mass limits where requested by the County and the ADEM, of pollutants contained herein which are limited by the applicable Pretreatment Standards. The frequency of monitoring shall be prescribed in the applicable Pretreatment Standard. All analyses shall be performed in accordance with procedures established by the Environmental Protection Agency under the provisions of Section 304(h) of the Act (33 U.S.C. 1314(h)) and contained in 40 CFR Part 136 and amendments thereto or with any other test procedures approved by the Environmental Protection Agency or the ADEM. Sampling shall be performed in accordance with the techniques approved by the Environmental Protection Agency.

I. MAINTENANCE OF RECORDS

Any Industrial User subject to the report requirements established in this Article shall maintain records of all information resulting from any monitoring activities required by this Article. Such records shall include for all samples:

- (1) The date, exact place, method, and time of sampling, preservation techniques, and the names of the persons taking the samples;
- (2) The date analyses were performed;
- (3) Who performed the analyses;
- (4) The analytical techniques/methods used; and
- (5) The results of such analyses

J. RETENTION OF RECORDS

Any Industrial User subject to the reporting requirement established in this Article shall be required to retain for a minimum of five (5) years any records of monitoring activities and results (whether or not such monitoring activities are required by this Article) and shall make such records available for inspection and copying by the County, the Alabama Department of Environmental Management or the Environmental Protection Agency. This period of retention shall be extended during the course of any unresolved litigation involving the Industrial User or when requested by the County, the Alabama Department of Environmental Management, or the Environmental Protection Agency.

K. DURATION OF PERMITS

S.I.D. permits shall be issued for a period of five (5) years. Original permits, however may be issued for a period between two (2) and five (5) years for the administrative convenience of the ADEM so as to stagger the renewal dates of the permits. Notwithstanding the foregoing, users becoming subject to a National Pretreatment Standard shall apply for new permits on the effective date of such National Pretreatment Standards. The County shall notify in writing any user whom it has cause to believe is subject to a National Categorical Pretreatment Standard of the promulgation of such federal regulations, but any failure of the County in this regard shall not relieve the user of the duty of complying with such National Pretreatment Standards. A user must apply in writing to the County and ADEM for a renewal permit within thirty (30) days prior to expiration of the current permit. Provided further that limitations or conditions of a permit are subject to modification or change as such changes may become necessary due to revisions in applicable water quality standards, changes in the County's NPDES permit, changes in Article II, changes in other applicable law or regulation, or for other just cause, users shall be notified of any proposed changes in their permit by the County and ADEM at least thirty (30) days prior to the effective date of the change. Any change or new condition in a permit shall include a provision for a reasonable time schedule for compliance. The user may appeal the decision of the ADEM in regard to any changed permit conditions as otherwise provided in this Ordinance.

L. TRANSFER OF A PERMIT

S.I.D. permits are issued to a specific user for a specific operation. A S.I.D. permit shall not be reassigned or transferred or sold to a new owner, new user, or for different premises.

M. REVOCATION OF A PERMIT

Any permit issued under the provisions of this Article is subject to be modified, suspended, or revoked in whole or in part during its term for cause included but not limited to the following:

- (1) Violation of any terms or conditions of the wastewater discharge permit or other applicable law or regulation;
- (2) Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts;
or
- (3) A change in any permit condition that requires either a temporary or permanent reduction or elimination of the regulated discharge.

ARTICLE V - INSPECTION, MONITORING AND ENTRY

A. GENERAL

Whenever required to carry out the objective of this Ordinance, including but not limited to, (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, standard of performance, or permit condition under this Article; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard pretreatment standard, standard of performance, or permit condition; (3) any requirement established under this Article.

- (1) The County and ADEM shall require any non-domestic user to (a) establish and maintain such records as required by Article IV, (b) make such reports, (c) install, use and maintain such monitoring equipment and methods (including, where appropriate, biological monitoring methods), (d) sample such effluent (in accordance with such methods, at such locations, at such intervals, and in such manner as the County and ADEM shall prescribe), (e) provide access to the plant, to the County, ADEM and EPA and (f) provide such other information as it may reasonably require.
- (2) The authorized representative of the County, ADEM, or EPA upon presentation of his credentials:
 - (a) shall have a right of entry to all properties within thirty (30) minutes of presenting proper credentials for purposes of inspection, observation, measurement, sampling and testing in accordance with the provisions of this Ordinance.
 - (b) may at any time have access to and copy any records, inspect any monitoring equipment or method required under clause (1), and sample any effluents where the owner or operator of such source is required to sample under such clause.
- (3) Where, in the opinion of the County, construction, repair, or maintenance of any portion of the system carrying wastewater, storm water, or surface water is needed and said portion lies within a public easement, County employees or contractors shall be permitted to enter upon said easement and perform such work as may be necessary. The responsibility for payment of the cost and expense of any such activities shall be determined by the County in accordance with the individual circumstances.

- (4) Where, in the opinion of the County, construction, repair or maintenance of any portion of the system carrying wastewater, storm water, or surface water is needed and said portion lies outside of a public easement, the owner thereof shall be advised by the County of the needed construction, repair or maintenance given a reasonable time, as determined by the County to complete such work. Upon the owner's refusal or failure to complete such work as aforesaid, the County may, with consent of the owner, perform such work at the expense of the owner. Upon the failure of the owner to perform such work or consent to such work at the owner's expense, the County may disconnect said portion from the system.

B. REQUIREMENTS

Specific requirements under the provisions of Section A of this Article shall be established by the County and ADEM for each Industrial User and such requirements shall be included as a condition of the user's S.I.D. permit. The nature or degree of any requirements under this provision shall depend upon the nature of the user's discharge, the impact of the discharge and economic reasonableness of any such requirement imposed. The user shall be required to design any necessary facility, and to submit detailed design plans and operating procedures to the County and ADEM for review in accordance with accepted engineering practices. However, the County shall not approve such a submittal for performance.

C. DENIED RIGHT OF ENTRY

In the event any user denies the County, ADEM, or EPA or their authorized representatives the right of entry, to or upon the user's premises for purposes of inspection, sampling effluents, or inspecting and copying records, or performing such other duties as shall be imposed upon him by this Section, the County, ADEM, or EPA shall use such legal procedures as shall be advisable and reasonably necessary to discharge its duties under this Ordinance to obtain entry.

D. DENIED DUTY

Any user failing or refusing to discharge any duty imposed upon him under the provisions of this Article, or who denies the County and ADEM the right to enter upon the user's premises for purposes of inspection, sampling effluents, inspecting and copying records, or such other duties as may be imposed upon him by this Article, shall be deemed to have violated the conditions of his S.I.D. permit and such permit shall be subject to modification, suspension, or revocation under the procedure established in Article III.

E. CONTROL MANHOLE

All industrial waste connections shall have a control manhole or equivalent, which will meet County specifications per Article VIII. The industrial user shall supply and maintain at its expense such equipment as may be necessary to enable the County to take continuous refrigerated flow proportional samples of the wastewater discharges. If after initial sampling and monitoring by the County, it is determined that the facilities are inadequate to obtain data of sufficient quality, the County may require changes or modifications in the facility as it deems necessary. It shall be the owner's responsibility to maintain such facilities and equipment contained therein. Any damage, which necessitates repair or replacement of the facility, shall be assessed and charged to the owner on an actual cost basis.

ARTICLE VI - QUANTITY DETERMINATIONS

Unless otherwise provided, in making a quantity determination, the quantity of waste delivered to the sewer system will be the same as the quantity of water delivered to the user by his water system. If well water is used, it must be metered and made known to the County on a monthly basis.

Should the user evaporate or dispose of water delivered by the water system, it shall be the obligation of the user to install such meters or other devices to determine the portion of quantity delivered to the sewer system. The County and ADEM will consider establishing a constant ratio, factor, or percentage to be applied to the metered water quantity delivered by the water system in order to determine the wastewater discharged by the user. It shall be the responsibility of the user to determine said factor and provide adequate written documentation, which justifies the factor to the satisfaction of the County and ADEM. The value of this factor will be biannually reviewed for accuracy.

All industries, commercial organizations, or other producers of liquid waste or any form, including domestic wastewater originating from hotels, motels, hospitals, universities, schools, laboratories of any nature, or homes served by the sewer system, and for which the water supply is from private wells or other suppliers of water, must pay a sewer connection charge to the County. Not less than the minimum charge established by this Ordinance will be applied. It shall be the obligation of the owner in all instances to submit a statement immediately where no payment procedure has been established.

ARTICLE VII - FEES, CHARGES, AND PENALTIES

A. USER CHARGES

A.1 SINGLE FAMILY RESIDENTIAL

A uniform volume charge per 100 cubic feet of 85% of metered water consumption.

Beginning January 1, 2008 \$7.40

A.2 OTHER DOMESTIC USERS

A uniform volume charge per 100 cubic feet of all metered water consumption.

Beginning January 1, 2008 \$7.40

A.3 OTHER USERS

A uniform volume charge per 100 cubic feet of all metered water consumption.

Beginning January 1, 2008 \$7.40

A.4 BILLING FREQUENCY

Bills are rendered quarterly or monthly at the discretion of the County. For users not on metered water, charges will be determined by the County.

A.5 MINIMUM CHARGES

At present, minimum quarterly and monthly charges are levied in accordance with the following table:

<u>METER SIZE</u>	<u>MINIMUM CHARGE QUARTERLY</u>	<u>MONTHLY</u>
5/8	\$ 5.40	\$ 2.00
3/4	6.90	2.50
1	13.50	5.00
1 1/4	18.00	7.00
1 1/2	22.50	9.00
2	38.40	14.00
3	72.00	28.00
4	119.40	45.00
6	234.00	85.00
8	472.50	170.00
10	567.00	200.00
12	715.50	250.00

A.6 PROCESSING FEE

A processing fee is hereby levied and imposed in the amount of \$12.00 for the processing of each application for private meter credit for the purpose of recovering the costs of administering the private meter program.

B. INDUSTRIAL WASTE SURCHARGES

An industrial waste surcharge shall be assessed against any industry in the County service area whose wastewater characteristics exceed the following normal wastewater strength:

BOD	Above 300 mg/l
COD	Above 750 mg/l
Suspended Solids (SS)	Above 300 mg/l
Fats, Oils, & Grease	Above 50 mg/l
Total Phosphorus	Above 4 mg/l

At present, industrial waste is considered any wastewater discharge with pollutant loadings in excess of the above maximum. The industrial waste surcharge elements shall be determined by application of the following rates:

(The surcharge per pound is determined as follows:)

<u>Biochemical Oxygen Demand (300 – 1200)</u>	<u>\$0.1950</u>
<u>Biochemical Oxygen Demand (1201 +)</u>	<u>\$0.2925</u>
<u>Total Suspended Solids (300 - 1000)</u>	<u>\$0.1500</u>
<u>Total Suspended Solids (1001 +)</u>	<u>\$0.3000</u>
<u>Chemical Oxygen Demand (750 - 3000)</u>	<u>\$0.1950</u>
<u>Chemical Oxygen Demand (3001 +)</u>	<u>\$0.2925</u>
<u>Fats, Oils, & Grease</u>	<u>\$0.1000</u>
<u>Total Phosphorus</u>	<u>\$2.0000</u>

At the discretion of the County and at such times when data has been compiled and established, additional or modified industrial waste surcharge elements shall be imposed. Such surcharges will be based upon the higher cost of treatment of the pollutant.

Pounds shall be computed by 0.00624* times the volume of the wastewater (in hundreds of cubic feet) times the parts per million (ppm) of wastewater as described in the Table above.

*The conversion factor used to determine the weight in pounds of one milligram per liter (mg/l) for a liquid volume in hundreds of cubic feet.

C. SEWER IMPACT PERMIT AND IMPACT FEES

All persons or entities who wish to connect to the County Sewer System, or modify, expand or change an existing connection to the County Sewer System shall first obtain a Sewer Impact Permit from the Jefferson County Sewer Permitting and Inspection Office by paying a non-refundable impact fee to the County for fixtures actually installed. Refunds for fixtures not installed may be refunded in accordance with Section C.11.

C.1. PROCEDURES

All impact fees shall be paid by the User or his designated agent before a building or plumbing permit will be issued for any residential, commercial, or industrial facilities whose wastewater is treated in the County Sewer System. The following is indicative of the step-by-step process which is required of an applicant in order to secure an impact permit that will enable the user to obtain a building or plumbing permit upon presentation to the appropriate authority:

1. Applicants must bring their building and/or plumbing drawings to the Sewer Permitting and Inspection Office of the Environmental Services Department (Room A-300, County Courthouse), Birmingham, Alabama, where they will pay impact fees and obtain an impact permit. It is the responsibility of the applicant to determine the number of fixtures for computation of the impact fee. The County will render assistance if the applicant furnishes drawings; however, the County will not assume responsibility for the fixture count.
2. After payment, the County will mark the impact permit form paid and retain two copies of the impact permit for its records. The applicant will receive two copies.
3. The applicant must present a copy of the impact permit marked "paid" to the Building Official of the County or Municipality before the Building Official will issue the applicant a building or plumbing permit. A copy should be retained by the applicant for his own records. The applicant shall also be responsible to insure that Sewer Connection Permits are obtained by the plumbing contractor in accordance with "Standards for Sanitary Sewer Lines and Connections" adopted by the County.
4. The County or Municipality shall retain one copy of the impact permit and attach said copy to their record copy of the building or plumbing permit. The County or Municipality shall not issue a building permit or a plumbing permit without an impact permit marked "paid" in accordance with the Unification Agreement. Any failure of the County or Municipality to require payment of the impact fee before issuance of a building permit or plumbing permit shall not operate as any waiver nor relieve the responsible party from payment of the applicable fee.

5. After obtaining the impact permit and the corresponding building or plumbing permit, the applicant may wish to increase or decrease the number or type of plumbing fixtures covered by the permit. For an increase in the number of fixtures, the applicant must return to the Sewer Permitting and Inspection Office and obtain a supplemental impact permit covering the increased number of fixtures before installation of the fixtures. For a decrease in the number of plumbing fixtures, the applicant may return to the office within two (2) years of issuance of the impact permit and obtain a refund by surrendering the applicant's copy of the impact permit. For a full refund, applicant must surrender all copies of the impact permit.

The County shall inspect to determine compliance with the impact permit issued to the applicant. The number of inspections and the timing of inspections shall be at the sole discretion of the County. Provided, it shall be the responsibility of the applicant and/or the Owner or Owner's representative to notify the County of completion of construction. For any plumbing fixtures which were not included in the impact permit or supplemental impact permit there will be an impact fee charged in accordance with the fee schedule established in Section C.3 of this Article. This impact fee must be paid before a certificate of occupancy will be issued.

If failure to make payment of impact fees results in legal action, the applicant must pay all costs and reasonable attorney's fees of such legal action.

C.2. DEFINITION OF PLUMBING FIXTURES

For the purpose of this Ordinance, a plumbing fixture is defined as any of the following:

1. Bathtub with or without a shower
2. Shower without a bathtub
3. Water closet
4. Bidet
5. Lavatory
6. Urinal
7. Sink
8. Dishwasher
9. Washing machine
10. Garbage disposal unit
11. Stubouts for plumbing fixtures
12. Floor drain
13. Trench drain (per 18" of length)
14. Bradley wash sink (per 18" of sink perimeter)
15. Group shower heads
16. Drinking fountain
17. Air conditioner condensate drain
18. Dumpster drain
19. Commercial ice machine

- 20. Photographic developing machine
- 21. Autoclave
- 22. Restaurant/Bar seat
- 23. Any other connection to the County Sewer System not included herein which the County determines should be classified as a plumbing fixture.

C.3. FEE SCHEDULE

An impact fee is hereby levied upon each new connection to the County Sewer System within or without the County in accordance with the following schedule:

FIXTURE FEE SCHEDULE

<u>PLUMBING FIXTURE</u>	<u>PAYMENT REQUIRED PRIOR TO FIXTURE INSTALLATION</u>	<u>PAYMENT REQUIRED FOLLOWING A THIRTY (30) DAY NOTICE OF UNPERMITTED FIXTURE(S)¹</u>
1. Bathtub with or without shower	\$225.00	\$450.00
2. Shower without a bathtub	225.00	450.00
3. Water closet	225.00	450.00
4. Bidet	225.00	450.00
5. Lavatory	225.00	450.00
6. Urinal	225.00	450.00
7. Sink	225.00	450.00
8. Dishwasher	225.00	450.00
9. Washing machine	225.00	450.00
10. Garbage disposal unit	225.00	450.00
11. Stubouts for plumbing fixtures	*	See Footnote ¹
12. Floor drain	56.25	112.50
13. Trench Drain (per 18" of length)	225.00	450.00
14. Bradley wash sinks (per 18" of sink perimeter)	225.00	450.00
15. Group shower (per shower head)	225.00	450.00
16. Drinking fountain	56.25	112.50
17. Air conditioner condensate drain	56.25	112.50
18. Dumpster drain	225.00	450.00
19. Commercial ice machine	225.00	450.00
20. Photographic developing machine	225.00	450.00
21. Autoclave	225.00	450.00
22. Restaurant/Bar seat	112.50	225.00
23. Other fixtures	**	See Footnote ¹

- * Impact fee for stubouts will be the cumulative fee for the fixtures to be served by the stubout.
- ** Impact fee to be determined by the County on a case by case basis in accordance with C.9 and at a rate of \$225.00 per plumbing fixture.
- ¹ Failure to make the payment required for any plumbing fixture prior to installation shall result in a doubling of the payment required, if not paid within thirty (30) days of the date of a notice mailed to the address for legal notices.

C.4. CREDIT FOR EXISTING FIXTURES

If an existing structure is to be demolished and replaced by a new structure at the same location, an applicant may be allowed credit for the plumbing fixtures in the existing structure. Credit may be given only for those plumbing fixtures in the existing structure which are connected to the County Sewer System. To receive credit for existing fixtures, applicants must arrange an inspection by County personnel to verify the fixture count prior to removing the old fixtures. Credit will not be given unless the fixtures have been inspected by the Environmental Services Department of the County prior to removal or evidence of a prior paid impact permit is presented.

If an existing structure is being added to, altered or remodeled, and an applicant wishes to relocate or replace existing plumbing fixtures within said structure, credit for existing fixtures will be allowed under the same provisions regarding inspection and verification as stated.

Except as provided herein, credit for existing connections and fixtures and seats in food serving establishments cannot be transferred from one location to another. For example, buildings, houses or other structures moved from one site to another shall be charged in accordance with the fee schedule established under Section C.3. of this Article. (Credits cannot be transferred to adjacent structures or units.) Provided, however, if such move is caused by condemnation or threat of condemnation and the initial location is permanently dedicated to a use that will not require a connection to the County Sewer System and the other requirements hereinabove are met, credit for such existing connections and fixtures and seats may be granted in accordance herewith.

Conditions not covered herein shall be handled by way of a determination by the County as to the amount of an impact fee which will be charged to the applicant. The burden of proof for establishing any claimed credit and right to sewer use as provided herein shall be on the applicant.

C.5. MOBILE HOMES

Single mobile home installations shall have impact fee determined in accordance with Section C.3 of this Article.

C.6. MOBILE HOME PARKS

The impact fee for a mobile home park shall be calculated at a rate of eight (8) plumbing fixtures per single wide mobile home or trailer pad and ten (10) plumbing fixtures per double wide mobile home or trailer pad. Said fees are applicable to new construction. Impact fees for existing mobile homes served by a septic tank shall be assessed in accordance with Article VII, Section C.8 below.

C.7. FOOD SERVICE ESTABLISHMENTS

As herein used, "restaurant" shall mean an establishment which serves food and/or beverages for consumption on the premises by use of reusable flatware/tableware, or glassware; "lounge" shall mean any establishment which serves beverages for on-premises consumption. The impact fee for restaurants and lounges shall be assessed at a rate of one-half (½) plumbing fixture per seat. The impact fee for all other food serving establishments shall be determined on the basis of projected volume of flow to the sewer as set out in Section C.9, Non-Domestic Impact Fees.

The owner of the restaurant or lounge shall be required to install grease traps on the premises and shall be responsible for cleaning of grease traps located on the premises. Grease trap cleaning shall be performed by a certified wastewater hauler licensed by the County and the Alabama Onsite Wastewater Board. Evidence of cleaning must be presented to the Health Department during inspection of the restaurant or lounge. Contents of grease traps shall be disposed of at approved County facilities.

C.8. ALTERNATE WASTE DISPOSAL SYSTEM CONVERSION TO COUNTY SEWER SYSTEM HOOK-UP

Any home, mobile home or commercial building served by a septic tank, out-house or privy, which was constructed under specifications of the Jefferson County Department of Health and approved for use by said agency, may connect to the County Sewer System at any time, provided there is not some prohibition in the regulations of the County, State or Federal Government and upon payment of a ten (\$10.00) dollar fee for such connection. Such connections shall also be subject to the following provisions:

A septic tank conversion fixture credit shall be limited to the existing fixtures up to a maximum of sixteen (16) fixtures (or equivalent fixtures). If the conversion is performed without a permit then the fixture credits will be voided and fees will be paid in accordance with the fixture fee schedule in Section C.3 of this Article. All new fixtures or existing fixtures in excess of the limit of sixteen (16) will result in the user being charged an impact fee at the rate established by Section C.3 of this Article.

C.9. NON-DOMESTIC IMPACT FEES

Any connection to the County Sewer System which will result in a non-domestic discharge of wastewater by virtue of the volume, rate of flow, or the level of pollutant concentrations will warrant an impact fee as determined by the County on a case-by-case basis. The County will base its determination upon all factors which significantly influence the consumption of County Sewer System hydraulic capabilities.

The determination shall be based on the annual volume contributed by a domestic household which is defined as having twelve (12) plumbing fixtures and the flow from which is equivalent to 125 hundred cubic feet per year. Therefore, an equivalent plumbing fixture, in terms of flow, shall be equal to 10.42 hundred cubic feet per year. Each equivalent plumbing fixture shall be assessed an impact fee charge as established by Section C.3 of this Article.

To determine the impact fee for non-domestic users, the following procedure shall be used:

1. The impact fee shall be determined on estimates of flow by the applicant at the time of application to secure an impact permit.
2. The County shall apply the applicant's estimates to the following formula to determine the number of equivalent plumbing fixtures and the impact fee to be charged as a result thereof.

$$\left\{ \begin{array}{l} \text{Number of Equivalent} \\ \text{Plumbing Fixtures} \end{array} \right\} = \text{annual volume of water to sewer (cu. ft.)} \div 1,042 \text{ cu. ft.}$$

$$\text{Non-Domestic Impact Fee} = \left\{ \begin{array}{l} \text{Number of Equivalent} \\ \text{Plumbing Fixtures} \end{array} \right\} \times \left\{ \begin{array}{l} \text{the rate established by} \\ \text{Sec. C.3 of this Article} \end{array} \right\}$$

3. A determination of actual wastewater volume shall be made using actual metered water consumption during the first year of applicant's operation. If it is determined by actual measurement that the volume discharged to the County Sewer System is different from the figures given by the applicant, an adjustment will be made either by a refund to or an additional charge to the applicant. The adjustment shall be made on the highest six (6) month volume discharged to the County Sewer System. Metering shall be installed at the Users expense if required by the County for determination of actual wastewater volume discharged.

C.10. EXEMPTIONS

The governing bodies of Jefferson County and all municipalities contained therein shall be exempted from payment of all impact fees for facilities which will be used directly by the aforementioned governing bodies for carrying out their governmental functions. The impact fee exemption does not apply to park boards, recreation boards, school systems, housing boards or authorities, libraries, federal agencies and state agencies.

C.11. REFUND OF IMPACT FEES

Upon proper application by the permittee, the County will refund sewer impact fees for fixtures which have not been installed. If no building permit was issued, the permittee must return all copies of the original impact permit and payment receipt for said fixtures in order to receive a refund. If a building permit was issued, the permittee must return the applicant's copy of the impact permit to the Sewer Permitting and Inspection Office within two (2) years of the issuance. An administrative charge for refunds will be assessed as follows:

1 – 10 Fixtures	=	\$10.00
11 – 50 Fixtures	=	\$20.00
51 or more Fixtures	=	\$50.00

D. SEPTAGE AND HOLDING TANK DISCHARGES

Only operators holding a current certificate of competency from the Jefferson County Health Department will be authorized to discharge septage and holding tank waste into the sewer system. Such septage shall be limited to wastewater not prohibited by this Ordinance, shall not include industrial sludges, and shall be discharged into the sewer system only at the following locations:

- (1) The County's Septage Discharge Facility near the Birmingham Municipal Airport at 1701 40th Street North
- (2) Valley Creek Wastewater Treatment Plant in West Bessemer
- (3) Village Creek Wastewater Treatment Plant in Ensley
- (4) Such other places as may be designated by the Director of Environmental Services

Fees for discharge and disposal at the above locations are set as \$30.00 per 1000 gallons, as measured at the discharge facility. The County reserves the right to update this fee based on increased operating costs. Payment for dumping or discharging approved tank waste at the above designated locations shall be made by delivering a ticket of appropriate denomination to the attendant designated to receive same. Books with tickets of appropriate denominations shall be made available for purchase by certified operators at the Impact Connection Permit Office of the Environmental Services Department, Suite A300, 3rd Floor North Annex, Jefferson County Courthouse, 716 Richard Arrington Jr. Blvd. North, Birmingham, Alabama 35203.

E. MISCELLANEOUS FEES

- (1) Cost incurred by the County for sampling and monitoring industrial- trial wastewater in accordance with Article V of this Ordinance shall be charged to the monitored industry on an actual cost basis.
- (2) Sampling or resampling and analysis or reanalysis tasks conducted by the County to establish an industrial waste surcharge shall be charged to the monitored industry on an actual cost basis.
- (3) All Users located outside the political jurisdiction of Jefferson County, or all users for which the wastewater flows originate outside the political jurisdiction of Jefferson County, shall pay a sewer user charge to the County equal to the user charges described in Section A of this article multiplied by the following non-resident user factor.

Non-Resident User Factor = 1.06

Minimum charges set forth in Section A.5 of this article shall also be multiplied by the non-resident user factor. All other fees or charges described within this ordinance shall be assessed to non-residential users in accordance with the schedules set forth herein or as may be established by Jefferson County.

At the discretion of the County and at such times when County ad-valorem tax or any other County sewer system related tax is modified or adopted, the non-resident user factor may be changed or modified by the County.

F. PENALTIES

For violation of any provision of this Article VII, Jefferson County in conjunction with the ADEM may, under provisions of the Code of Alabama, 1975, Section 22-22-9, paragraphs L, M, O, P and Q, as amended in 1980, fine the user not less than one hundred dollars (\$100.00) nor more than ten thousand dollars (\$10,000.00) for each offense. Each day on which a violation shall occur or continue, shall be deemed a separate and distinct offense. In addition to these penalties, the same Section allows the County to recover reasonable attorney's fees, court costs, court reporters' fees and other expenses of litigation by appropriate suit as law against the person found to have violated this Ordinance of the orders, rules, regulations, and permits issued hereunder.

ARTICLE VIII - BUILDINGS, SEWERS, AND CONNECTIONS

A. OWNER RESPONSIBILITY

All costs and expense incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the County from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

B. NUMBER OF SEWERS PER BUILDING

A separate and independent building sewer shall be provided for every building, provided, however, where one building stands at the rear of another of an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the sewer may be extended to the rear building and the whole considered as one building sewer. Provided further, that if separate water meters service each building, then separate sewer service can be charged to each building, and a separate sewer will be required. A separate sewer shall be a single sewer line running from the building to the common sewer (collector) serving all buildings in the area.

C. CONSTRUCTION REGULATIONS

The size, slope, alignment, materials or construction of a building sewer, and the methods to be used in excavating, placing of pipe, jointing, testing, and backfilling the trench, shall all conform to the requirements of the plumbing codes or other applicable rules and regulations of the County. In the absence of code provisions, or in amplification thereof, the materials and procedures set forth in appropriate specifications of the ASTM and WPCF Manual of Practice No. 9 shall apply. A cleanout connection (plugged "T") shall be made at the building and at the property line. No private sewer may be extended more than fifty (50) feet in the public right of way.

D. SEWER ELEVATION

Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the sewer, sanitary wastewater carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

E. CONNECTION REGULATIONS

The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing codes or other applicable rules and regulations of the County, or the procedures set forth in appropriate specifications of the ASTM and the WPCF Manual of Practice No. 9. All such connections shall be made gastight and watertight. Any deviation from the prescribed procedures and materials must be approved by the County before installation.

F. ON-SITE REQUIREMENTS

All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the County.

G. INTERCEPTORS

Organic and mineral grease and oil, and sand interceptors shall be provided by the owner when, in the opinion of the County, they are necessary for the proper handling of liquid wastes as defined in Article II.A; except that such interceptors shall not be required for private living quarters or dwelling units. Prior to installation, all interceptor plans and specifications must have received written approval from the County and shall be located as to be readily and easily accessible for cleaning and inspection.

H. FACILITY MAINTENANCE

Where primary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.

I. CROSS-CONNECTION

Any cross-connection between potable water supply and a sanitary sewer is prohibited.

ARTICLE IX - GENERAL PROVISIONS

A. DAMAGE TO SEWER SYSTEM

No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any portion of the sewer system. Any person violating this provision shall be punished as according to law.

B. VALIDITY

All resolutions, ordinances, parts of resolutions, or parts of ordinances in conflict herewith are hereby repealed.

C. SEVERABILITY

If any provision, paragraph, word, section, or article of this Ordinance is invalidated by any court of competent jurisdiction, the remaining provisions, paragraphs, words, sections and chapters shall not be affected and shall continue in full force and effect.

ARTICLE X - ORDINANCE IN FORCE

A. DATE EFFECTIVE

This ordinance shall be in full force and effect on the date of passage.

B. DATE ADOPTED

Passed and adopted by the Jefferson County Commission on the ____ day of _____, _____. Approved this ____ day of _____, _____.

by _____.

Attest:

Minute Clerk of the Jefferson County Commission
Approved as to correctness:

Jefferson County Board of Health



On-Site Sewage Disposal Regulations Including Subdivision Regulations Manufactured Home and Travel Trailer Park Regulations

Adopted March 13, 1996

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Chapter 1

General Provisions

1.1 Authority

The Jefferson County Board of Health is authorized to promulgate these Regulations under and by virtue of the authority of Section 22-3-2, Sections 22-26-2 through 22-26-5 (Code of Alabama, 1975); and Act No. 659,(Alabama Legislature, Regular Session 1978).

1.3 Structure and Numbering of Regulations

1.3.1 Chapters The normal division of the Regulations are chapters, which should encompass a broad subject matter. Chapters are numbered consecutively in Arabic throughout the regulations

1.3.2 Parts The normal division of chapters are parts. A part should be devoted to a specific subject matter within a chapter. Parts are numbered consecutively in Arabic throughout each chapter and shall include the number of the chapter set off by a decimal point. Thus the part number for Part 15 within Chapter 3 is 3.15.

1.3.3 Sections The normal divisions of parts are sections. The section is the basic unit of these Regulations. Sections are numbered consecutively in Arabic throughout each part and shall include the numbers of the part set off by a decimal point. Thus, the section number for Section 26 Part 3.15 is 3.15.26.

1.3.4 Internal Division of Sections Whenever internal divisions are necessary, sections shall be subdivided into paragraphs, paragraphs into subparagraph, and subparagraphs into subdivisions, designated as follows:

Terminology	Illustrative Symbol
Paragraph	a)
Subparagraph	1)
Subdivision	i)

1.4 Additional Requirements

The Board may require compliance with requirements other than those contained herein, when such requirements are deemed essential by the Board to maintain safe and sanitary conditions. The Board may approve the use of new or innovative technologies, when deemed appropriate, and set such conditions for their use as may be necessary.

1.5 Severability

- 1.5.1 The provisions of these Regulations are severable. If any provision of these Regulations is found to be invalid, or if the application of these Regulations to any person or circumstance is invalid, such invalidity shall not affect other provisions or applications which can be given effect without the invalid provision or application.
- 1.5.2 If a provision of these Regulations is found to be in conflict with a provision of any other statutes, rules, or requirements, then the more restrictive of such provisions shall apply.

1.6 Violations and Penalties

It shall be unlawful to develop a subdivision; develop or operate a manufactured home park; to build, maintain, repair, clean or use a sewage collection, treatment and/or disposal system in violation of these Regulations. Any person, firm or corporation failing to comply with any provision of these regulations may be enjoined by a Circuit Court in Jefferson County, upon suit brought on behalf of the Jefferson County Board of Health.

1.7 Appeals

Any person who, (a) after proper application, is denied a permit, certificate of competency, or variance; or (b) is in possession of a valid permit, certificate of competency, or variance and is notified in writing of the intent to suspend, revoke, or deny renewal of said permit, certificate of competency, or variance shall be provided the reasons therefore and may, within seven days following receipt of said notice, apply in writing for a hearing to the Health Officer. The Health Officer shall fix the time and place for such hearing. Following such a hearing the decision of the Health Officer shall be final except that such decision may be reviewed by the Circuit Court of Jefferson County.

1.8 No Guarantee Implied

Issuance of a permit to construct or permit to repair for an onsite sewage disposal system, and subsequent approval of same by representatives of the Health Department shall not be construed as a guarantee or warranty that such systems will function satisfactorily for any given period of time. Due to variables influencing system function which are beyond the scope of these Regulations said representatives do not assume any liability for damages which are caused or which may be caused, by malfunction of such system.

1.9 Variances

The Director shall be empowered to grant variances to the requirements of these Regulations in situations when the strict application of such requirements would create a unique or unfair burden upon those affected. Variances may be authorized only when it can be reasonably demonstrated that no hazard to public health and safety, no

nuisance, and no degradation of the natural environment will result. All variances will be granted in accordance with Part 2.12 or Section 4.2.8 of these Regulations.

1.10 General Provisions for Sanitary Systems

1.10.1 Whenever new construction is proposed or any on-site sewage disposal system malfunctions so as to create a potential or actual public health hazard or nuisance and cannot be reasonably repaired, the owner and/or occupant shall be required to connect to a sanitary sewer system when any portion of the lot or parcel of land in question is within a distance of one hundred (100) feet of a sanitary sewer existing within any public street, alley, or right-of-way which abuts or joins the lot or parcel of land.

1.10.2 Every on-site sewage disposal system shall be operated and maintained in such a way so as to prevent hazards to public health and safety, and degradation of the natural environment.

1.10.3 It shall be prohibited for any person to:

- a) Discharge or deposit sewage, or to allow sewage to be deposited, upon the ground surface; into a lake, river, stream or ditch; or in any location other than public sewer, or on-site sewage disposal system acceptable to the Health Department.
- b) Discharge non-biodegradable waste, hazardous waste, or any waste containing high levels of any metals or chemicals from industrial, agricultural, or commercial establishments into an on-site sewage disposal system.

1.10.4 Every premise not served by a public sewer shall be served by an on-site sewage disposal system acceptable to the Health Department.

1.10.5 Every premise shall be provided with an appropriate number of toilet facilities as provided for in the Standard Plumbing Code.

1.10.6 The use of water saving devices or fixtures is encouraged for all on-site sewage disposal systems.

1.11 Definitions

Words, terms, and expressions utilized in these Regulations shall have the meanings as defined in this Part. Words, terms, and expressions which are not defined in this Part shall possess their commonly accepted meanings in accordance with standard English usage.

When used in these Regulations and for the purposes thereof, the following terms and words shall be construed to have the meaning assigned to them as follows except where the context prohibits.

Act 659 - Shall mean Act 659, Alabama Legislature, Regular Session 1978.

Aerobic Treatment Unit - An on-site sewage treatment device which supplies oxygen to the sewage so that biological waste reduction occurs by aerobic bacteria.

Alternate/Experimental On-site Sewage Disposal System - An on-site sewage disposal system requiring unconventional, new or innovative design or methods of sewage handling, treatment or disposal. See Section 2.8.3. of these Regulations.

Application - Shall mean Application for: On-site Sewage Disposal Permit, Subdivision development, Manufactured Home Park development or Manufactured Home Park operation.

Approved Lot - A lot that has been approved by the Health Department and is acceptable for an on-site sewage disposal system subject to the provisions of these Regulations and provided, however, that approval of the lot does not constitute approval of the construction plan layout as required by these Regulations.

Bedrock - The solid rock underlying soils. Boulders and soft sandstone which are capable of being removed or ripped with conventional septic tank installation equipment shall not be considered as being bedrock.

Board - The Jefferson County Board of Health and includes any officer, employee or agent of said Board authorized to act for and on behalf of said Board with respect to the enforcement and administration of these Regulations.

Building Drain - That part of the lowest piping of a drainage system which receives the discharge from soil and waste drainage pipes inside the walls of the building and conveys it to the house sewer.

Central Sewage Treatment System - A system for sewage treatment acceptable to the Health Department, whereby all the sewage from a Manufactured Home/Mobile Home Park or subdivision shall be collected in a network of sanitary sewers and conveyed by water to a common location for treatment.

Certificate of Competency - A certificate authorized and required under Section 11 of Act 659 and issued by the Health Department to a person who shall have demonstrated compliance with all applicable provisions of Parts 8.2 and 8.3 of these Regulations.

Certified Installer - A person engaged in the business of installing and/or repairing on-site sewage disposal systems and who has a certificate of competency for such business as required by Act 659.

Cleaner - See sewage cleaner.

Commercial Building - A structure other than a single-family residence or dwelling.

Construction Plan - A scaled layout drawing consisting of construction details as required in Section 2.2.5 of these Regulations and submitted with the application.

Conventional On-Site Sewage Disposal System - An on-site sewage disposal system which consist of a standard septic tank(s) with either level header or serial distribution field lines which are eighteen (18") - twenty-four (24") wide and installed at a twenty-four (24") - thirty-six (36") depth. Field lines will employ clean aggregate and four (4") perforated pipe and meet all requirements of Part 3.4 of these Regulations.

Covenant To Run With The Land - An agreement between the property owner and another which is recorded in the office of the Probate Judge or other records office, as required by Section 2.9.14 of these Regulations, which runs with the land and which cannot be separated from the land until public sewer is available and premise is connected to said sewer, and which is intended to bind successors in title.

Crossover - Non-perforated ridged or non-perforated flexible pipe used for the purpose of connecting one effluent distribution line to another and installed as specified in Appendix F-2 of these Regulations. Overflow pipe or relief line used in these Regulations shall mean the same as crossover.

Curtain Drain - A man-made subsurface drainage structure intended to intercept and divert groundwater.

Dependent Trailer Unit - A manufactured home/mobile home not having a toilet, bathtub or shower, or any manufactured home/mobile home not providing a plumbing system suitable for connection to an on-site sewage disposal system or central sewage treatment system.

Developer or Sponsor - A person who engages in building development and/or subdivides property as defined in these Regulations.

Director - Shall mean the Director of the Bureau of Environmental Health for the Jefferson County Department of Health or his duly authorized representative.

Disposal Field - An area consisting of open jointed or perforated piping placed in trenches, mounds, or other arrangements which utilizes the soil for absorption and treatment of effluent from on-site sewage treatment and disposal system, clothes washing machines, grease traps or other wastes appurtenance.

Dwelling - A house, mobile home, shelter or building or portion thereof which is occupied in whole or in part as the home, residence or sleeping place of one or more human beings.

Effluent - Partially or completely treated sewage flowing out of any sewage treatment device.

Effluent Disposal Line - Open jointed or perforated pipe placed in trenches in a soil disposal field for the purpose of distributing effluent.

Effluent Distribution Line - See effluent disposal line.

Effluent Line - A solid non-perforated pipe from septic tank, grease trap, or aerobic treatment unit outlet tee to the header line or to the effluent disposal line if no header line is employed.

Engineer - A person registered as a professional engineer with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors, practicing under the rules of Professional Conduct (Code of Ethics) and experienced in, and has an understanding of soil, geological and topographical conditions which may affect the operation of on-site sewage disposal systems.

Experimental/Alternate On-site Sewage Disposal System - See alternate/experimental on-site sewage disposal system.

Field Line - See effluent disposal line.

Flood - The general and temporary condition of partial or complete inundation of land areas caused from the overflow of surface waters.

Flood Plain - Any normally dry land area that is susceptible to being inundated by waters of the one percent (1.0%) annual chance flood, i.e., the one hundred (100) year flood.

Flood Prone Area - Any area which will normally be subject to a flood during some portion of a year.

Grease Trap - A watertight tank or receptacle in which the grease present in sewage is intercepted and congealed and from which it may be skimmed from the surface of the liquid waste for disposal.

Groundwater - Subsurface water occupying the zone of saturation.

Header Line - A pipe, perforated or non-perforated, from the effluent line to the effluent disposal line for the purpose of equal distribution of effluent.

Health Department - The Jefferson County Department of Health and its agencies, employees and instrumentalities.

Health Officer - The Health Officer of the Jefferson County Department of Health or his duly authorized representative.

House Sewer - That part of the building drainage system which extends from the end of the building drain, and which receives the discharge of any building drain and conveys it to a sanitary sewer or an individual on-site sewage disposal system.

Installer - See Certified Installer

Land Surveyor - See Surveyor

Lithic Contact - A boundary between soil and continuous, coherent underlying material. The underlying material must be sufficiently coherent to make hand digging with a spade impractical (hardness of three (3) or more on Mohs Scale).

Low Water Use Toilets - Toilets engineered and designed to flush on 1.6 gallons of water or less.

Low Water Use Urinals - Urinals engineered and designed to flush on 1.0 gallon of water or less.

Lot - A part of an approved subdivision or a parcel of land intended for the building of a single dwelling, building, or other development.

Manufactured Home/Mobile Home - A movable or portable dwelling built on a chassis, connected to utilities, built for use with or without a permanent foundation and designed or used for full-time occupancy.

Manufactured Home/Mobile Home Park - Any site, lot, field, or tract of land, privately or publicly owned or operated, upon which four (4) or more manufactured homes/mobile homes, used for living, eating, or sleeping quarters are, or are intended to be located; such establishment being a place where housing accommodations are available or may be established, whether operated for or without compensation, by whatsoever name or title they are colloquially or commercially known. The term "Manufactured Home/Mobile Home Park" shall not include those lots developed for sale to individual owners; these developments being regulated under individual lot or subdivision requirements.

Manufactured Home/Mobile Home Space - A parcel of land in a manufactured home/mobile home park for the placement of a single Manufactured Home/Mobile Home and the exclusive use of its occupants.

Mottling - Spots or blotches of different color or shades of color interspersed with the dominant soil color. Oxidation (bright colors) and reduction (chroma of three (3) or less) are caused by alternating aerobic and anaerobic conditions which occur due to seasonally fluctuating groundwater or saturation caused by a perched water table.

Multifamily Dwelling - A dwelling which is designed to be occupied by more than one family, living as separate family units, and in which the rooms are occupied in apartments, suites or groups, including tenant houses, flats, houses, apartment hotels, condominiums, duplex apartments, kitchenette apartments and all other dwellings similarly occupied, whether specifically enumerated herein or not.

Munsell Color Notation - A standard method of color notation which applies numerical value to hue, value, and chroma (for example, "Yellowish Brown 10YR5/6") to describe soil color.

Non-Conventional On-Site Sewage Disposal System - On-site sewage disposal systems which do not meet conventional standards but do not employ new or experimental technology. See Section 2.8.2 of these Regulations.

Non-Residential Structure - See commercial building.

NSF - National Sanitation Foundation

On-Site Sewage Disposal System - Any system of piping, treatment devices, or other facilities that convey, store, treat, or dispose of sewage on the property where it originates or on adjacent or nearby property under control of the user where the system is not connected to a public sewer.

Paralithic Contact - Boundary between the soil and discontinuous partially weathered igneous, metamorphic, or sedimentary rock, with characteristics similar to rock, but which is not soft, loose or friable like saprolite. When evaluated in place, it is compact

and grinds when encountered by auger but may be penetrated with an auger or backhoe.

Perched Groundwater - Subsurface water in a saturated zone that is supported by an impervious or restrictive soil layer level above the normal regional groundwater.

Percolation Test - A procedure, as outlined in Appendix B of these Regulations, for estimating the capacity of a soil to transmit water after that soil has reached saturation.

Permit - Shall mean either Application for On-Site Sewage Disposal Permit, Permit to Construct, Permit to Use/Operate, or Permit to Repair.

Permit to Construct - Shall mean an approved Application for On-Site Sewage Disposal Permit by the Health Department with stated conditions of approval.

Permit to Repair - Is a written recommendation by the Health Department, issued prior to any action being taken to repair or modify an on-site sewage disposal system.

Permit to Use/Operate - Is a written approval from the Health Department that all conditions in the Permit to Construct have been satisfied and that the on-site sewage disposal system or facility is approved for use.

Person - Any individual, corporation, firm, company, or any other legal entity.

Portable Toilet - A portable self-contained privy.

Premise - Any structure, which is served or should be served by an on-site sewage disposal system.

Primary Disposal Area - The area where the on-site sewage disposal system is located or is proposed to be located.

Privy or Dry Closet - A receptacle, place or method used for the purpose of containing or disposing of human excreta other than by use of a water closet and not connected to water under pressure. This definition does not include alternate systems.

Professional Soil Classifier - Such person who by reason of his or her knowledge of soil classification acquired by professional education and practical experience, is qualified to engage in the practice of soil classification, as defined in Act No. 81-766, Alabama Legislature, Regular Session 1981.

Refusal - The point at which bedrock is encountered.

Renovation- The reconstruction of any premise served by an on-site sewage disposal system. This reconstruction includes any work for which a building permit is required by the local building jurisdiction.

Rejected Lot - Any lot that has been found unacceptable for the use of a proposed on-site sewage disposal system.

Residence - See dwelling.

Residential Structure - Shall mean a single-family dwelling.

Rippable - Rock that is sufficiently soft, thinly bedded or fractured so that excavation in it can be made by the conventional operation of trenching machines, backhoes, augers or small rippers and other equipment common to construction of small pipelines, sewer lines, dwellings and the like.

Rock - The consolidated or partially consolidated mineral matter or aggregate, including bedrock or weathered rock, which has one or more of the following characteristics: jointing, bedding planes, or strike and dip. Rock does not have the properties or structure of soil, and may be exposed at the land surface or be overlain by soil or saprolite.

Sanitary Sewer - The conduits, sewers, and all devices and appurtenances by means of which sewage is collected, pumped, treated and disposed.

Sanitary Station - A facility used for receiving and disposing of sewage from travel trailers, auto campers, and other recreational units holding tanks.

Saprolite - Material weathered from igneous or metamorphic rock, without soil structure, which is soft, loose, and friable in place and can be penetrated easily with an auger or backhoe.

Secondary Disposal Area - Area reserved for the duplication of the primary disposal area.

Septage - Sewage or a mixture of sewage, sludge, fatty materials, human feces and liquid removed during the pumping of a sewage tank.

Septic Tank - A horizontal water-tight tank or receptacle used as a reservoir for the purpose of receiving or depositing sewage, contents or drainage from water closet, lavatories, showers, bathtubs, clothes washing machines, kitchen sinks, grease traps, dishwashers, or other similar household appurtenances until anaerobic decomposition is to a considerable extent effected.

Sewage - The water-carried human, animal or vegetable wastes from residences, buildings, institutions, food service and industrial establishments, and other similar facilities.

Sewage Cleaner - A person engaged in the business of cleaning sewage tanks and who has a valid certificate of competency for such business as required by Act 659.

Sewage Tank - A watertight tank or receptacle used as a reservoir for the purpose of receiving, treating, or depositing sewage. Sewage tanks include, but are not limited to, septic tanks, holding tanks, portable toilets, privies, grease traps, aerobic treatment units and other similar sewage holding appurtenances.

Sewage Treatment Device - Shall mean septic tank, grease trap, or aerobic treatment unit.

Sinkhole - A depression in the topography without a surface outlet for drainage from the low point. Sinkholes are common in areas containing limestone and generally result from the collapse of solution cavities.

Soil - The naturally occurring, unconsolidated mineral and organic material of the land surface developed from rock or other parent material, which is less than or equal to 2.0 millimeters in size as measured in place. Soil consists of sand, silts, and clays or combinations of these textures and may contain larger aggregate materials such as rock or paralithic material, as well as variable amounts of naturally occurring organic materials. Soil includes O, A, E, B, and C horizons, as defined in the latest edition of National Soil Survey Manual of the USDA, Soil Conservation Service.

Soil Disposal Field - See disposal field.

Soil/Site Evaluation - The practice of investigating, evaluating, and reporting basic soil and site conditions which apply to on-site sewage disposal.

Soil Survey - The systematic examination of soils in the field or in laboratories, their description and classification, and the mapping of kinds of soil and the interpretation of soils according to their adaptability for various land use conducted according to the standards of the USDA, Soil Conservation Service.

Spa - A unit designed for recreational and therapeutic use which is not normally drained, cleaned, or refilled for each user. It may include, but not be limited to, hydrojet circulation, mineral baths, air induction bubbles, or some combination thereof. Terminology for a spa includes, but is not limited to, "therapeutic pool", "hydrotherapy pool", "whirlpool", "hot spa", "hot tub", etc.

Sponsor - See developer.

Standard Building Code - The latest edition of the Standard Building Code of the Southern Building Code Congress International.

Standard Plumbing Code - The latest edition of the Standard Plumbing Code of the Southern Building Code Congress International.

Subdivision - The portion of a lot, tract or parcel of land which is divided or re-subdivided, whether at one time or in stages, into two or more lots, excluding the remnant of the original lot, tract or parcel, for the purpose, whether immediate or future, of building development. This definition includes, but is not limited to, any area to be developed for use as a permanent site, whether for sale, lease or rental, for the placement or construction of single-family dwellings, commercial buildings, townhouses, condominiums, and other such multiple dwellings. The division of land into two or more lots through sale at public or private auction is considered an act of creating a subdivision for the purposes of this part.

Submitting Professional - Professional Engineer, Surveyor, or Professional Soil Classifier.

Surface Waters - All waters of any river, stream, watercourse, pond, lake, swamp or spring located partially or wholly within Jefferson County.

Surveyor - A person registered as a land surveyor with the State of Alabama Board of Registration for Professional Engineers and Land Surveyors and practicing under the Rules of Professional Conduct (Code of Ethics) experienced in, and has an understanding of, soil and geological and topographical conditions which may affect the operation of on-site sewage disposal systems.

Vicinity Map - A map which includes the region near or about a place and the proximity to prominent, permanent and established landmarks and which indicates correct road or street names and numbers and which is sufficiently accurate to locate the property without additional direction or assistance.

Water Closet - A type of closet or receptacle normally containing water into which human excreta will, in the course of proper or ordinary use thereof, fall or be deposited, and which equipped that such excreta will be washed or carried by water flowing through the same at appropriate intervals into a house sewer or other system of drainage or method used for the disposal of such excreta, sewage or contents in a sanitary manner.

Watering Station - A facility for filling the water storage tanks of travel trailer, auto camper, and other recreational units with potable water from an approved water system.

Wet Weather Season - That portion of the year receiving the highest amount of rainfall that is most unfavorable to the proper functioning of an effluent disposal field because of soil characteristics such as, but not limited to, shrink swell potential, perched or apparent high water table, or other such conditions. Generally, the wet season is December through April, but it may vary during a year in any one location depending upon soil type and amount of rainfall received during a particular period.

Withheld Lot - Any lot that has been excluded from approval by the Health Department for the use of an on-site sewage disposal system pending further evaluations.

1.12 Effective Date

These Regulations shall be in full force and effect immediately after promulgation and adoption by the Board.

Chapter 2

Application and Evaluation Requirements

2.1 Approval Required to Construct an On-Site Sewage Disposal System

No person shall obtain a building permit and/or begin site excavation, construction or installation of any structure requiring an on-site sewage disposal system until said person has made application for and received written approval from the Health Department to install an on-site sewage disposal system. This requirement applies to all development including lots in approved subdivisions which will utilize an on-site sewage disposal system.

2.2 On-Site Sewage Disposal Application and Accompanying Materials

2.2.1 When applying for approval to install a new on-site sewage disposal system, a fully completed application and a construction plan layout submitted in triplicate of the proposed system is required.

2.2.2 Application forms are provided by the Health Department and all submittals shall be on these forms.

2.2.3 An application fee as approved by the Board of Health shall be submitted by the applicant prior to the Health Department's processing of the on-site sewage disposal system application.

2.2.4 The on-site sewage disposal system application and construction plan layout shall be completed and signed by an Engineer, Land Surveyor, or Professional Soil Classifier, except for applications for conventional on-site sewage disposal systems submitted for approved subdivision lots. All applications shall be signed by the applicant.

2.2.5 The construction plan layout, as a minimum, shall contain a construction plan drawn to scale (maximum scale 1" = 50'; Large tracts of land may be submitted on a scale of 1" = 100' or 1" = 200' with construction details shown at 1" = 50') and shall indicate the following:

- a) Legal Description
- b) Lot Dimensions
- c) Location of proposed dwelling including decks, sidewalks, driveways, any other structures (existing or proposed) or improvements including, but not limited to garages, barns, swimming pools, retaining walls, gazebos, or any other similar structures.
- d) Any anticipated cut and/or fill.

- e) Layout of proposed on-site sewage disposal system including septic tank or aerobic treatment unit location and the primary disposal area shown on ground contour with the maximum and minimum depth indicated. If fill is required, the depth shall be indicated.
- f) Location of a secondary disposal area for repair. (i.e. 100% duplication area).
- g) Relative elevations and direction of slope, any surface drainage and direction of flow.
- h) Any wells on the proposed lot and any other well (in use or not) within one-hundred (100) feet of the proposed system.
- i) Location of all known testing including soil inspection pits and percolation tests.
- j) Location of all underground utilities such as gas, water, telephone, electric, cable T.V. and other similar lines.
- k) A vicinity map with existing landmarks indicating accurate location of the subject property if said property is other than a lot located in an approved subdivision.
- l) Any flood prone area. See 2.9.12 of these Regulations.
- l) Any areas with slope greater than twenty five (25) percent.
- m) Detailed architectural floor plans of the house may be required if house size, shape, number of bedrooms, etc. are in question.
- n) Any easements on the proposed lot. See Section 2.9.11 of these Regulations.
- o) Any other information as required by the Health Department in its sole discretion that may be necessary in evaluating the proposed on-site sewage disposal system.

2.2.6 Any omission of required information may result in the application and construction plan layout being returned for completion and/or delays in processing.

2.2.7 Additional requirements for non-residential structure application and construction plan layout.

- a) Floor plan of the proposed building to scale.
- b) Use of proposed building.
- c) Maximum and average number of persons that will occupy/use the building.
- d) Estimated peak and average sewage flow rates. The volumes of sewage for commercial, institutional and recreational establishments shall be computed as determined from Appendix A. Actual metered water usage data from similar

facilities may be used in lieu of Appendix A, if properly documented records are provided by the Submitting Professional.

- e) Parking lot details.
- f) Any other information as required by the Health Department in its sole discretion that may be necessary in evaluating the proposed on-site sewage disposal system.

2.2.8 Where a proposed premise is to be served by a potable water source other than an approved public source, the Health Department reserves the right to require water samples to be submitted and approved by the Health Department prior to approving an on-site sewage disposal application. Prior potable water supply approval shall be required in those cases where the Health Department in its sole opinion knows or suspects that unsafe or inadequate water supply may or does exist. Where in the opinion of the Health Department a safe or adequate water supply is not available, the on-site sewage disposal application shall be denied.

2.3 General Requirements for On-Site Sewage Disposal Systems

2.3.1 The proposed location for the on-site sewage disposal system shall give proper consideration to easements, drainage, topography, soil conditions, rock, groundwater, and other existing or anticipated site characteristics.

2.3.2 No system shall be installed in a drainage or other depressed area where water could collect or channel.

2.3.3 The acceptability of a lot or site to support an on-site sewage disposal system of the type and size as required by these Regulations shall be determined on the basis of certified soil test data, site conditions, and daily sewage flow quantity and characteristics.

2.3.4 Site conditions shall include, but not be limited to lot size, slope, drainage, restrictive soil layer elevation, rock outcropping, bedrock elevation, seasonal groundwater elevation, sinkholes, wells, surface drainage or flood prone areas.

2.3.5 The primary disposal field shall be sized in accordance with Appendix E of these Regulations. No residential dwelling on-site sewage disposal system shall have less than three hundred (300) linear feet of field lines.

2.3.6 The septic tank shall be sized in accordance with Appendix D of these Regulations.

2.4 Percolation Test Requirements for Residential Dwelling Applications

2.4.1 The percolation test data shall be certified by an engineer, land surveyor, or professional soil classifier. The seal or registration number of the submitting professional shall be applied to the test results and included in the application.

2.4.2 The Percolation test shall be performed in accordance with Appendix B of these Regulations.

- 2.4.3 The percolation rate shall be reported as the number of minutes required for the water surface to drop one inch (minutes per inch) in the test hole after the soil is saturated. Percolation tests results are considered informational and test results shall be considered with all other site conditions in determining site suitability for on-site sewage disposal.
- 2.4.4 The minimum number of percolation tests required shall be one per residential lot or dwelling. The percolation test shall be conducted in the proposed primary disposal area. The submitting professional certifying the test shall use his judgment in determining the need for additional tests to determine the suitability of the site. The Health Department may require additional testing when in the sole opinion of the Health Department; suitability of the site for on-site sewage disposal is in question.
- 2.4.5 The percolation test hole shall be dug to the depth of the proposed installation of the effluent disposal trenches as determined from results of the soil inspection pit. The depth of the percolation test hole shall not be less than twelve (12) inches or greater than thirty-six (36) inches, except as approved in writing by the Health Department.
- 2.4.6 All percolation tests shall be flagged and identified. The flagging and identification shall be in place when the Health Department evaluates the test.
- 2.4.7 When in the sole opinion of the Health Department the percolation tests results appear to be non representative, site evaluation of soil characteristics shall be used to determine suitability of the site for on-site sewage disposal.
- 2.4.8 All known percolation test results, dates, and locations shall also be reported in the On-Site Sewage Disposal System Application.
- 2.5 Soil Inspection Pit Requirements for Residential Dwelling Applications
- 2.5.1 The soil inspection pit data shall be certified by a engineer, land surveyor, or professional soil classifier. The seal or registration number of the submitting professional shall be applied to the data results and included in the application.
- 2.5.2 The minimum number of soil inspection pits shall be one per lot or dwelling. Additional soil inspection pits may be required if marginal or questionable soil and/or site characteristics are encountered. The Health Department may require additional inspection pits when percolation test results are nonrepresentational of actual soil conditions. The Health Department may require additional inspection pits when in the sole opinion of the Health Department, suitability of the site is in question or varying soil/site conditions exist.
- 2.5.3 The soil inspection pit shall be in the primary disposal area and in the area of the percolation test. Soil inspection pits in the secondary area may be required when in the sole opinion of the Health Department the primary area is considered marginal for on-site sewage disposal.
- 2.5.4 Soil inspection pits shall be five (5) feet deep or to refusal.

2.5.5 Inspection pits shall be described and documented vertically from top to bottom by horizons or layers. This description shall include the following:

- a) Depth of each horizon or layer; example: 0-6", 6-15", and 15-60".
- b) Color shall be indicated by Munsell color notation.
- c) Texture shall be described using United States Department of Agriculture (U.S.D.A.) textural classes. See Appendices P, P-1, and P-2 of these Regulations.
- d) Depth to bedrock.
- e) Depth to water at time of evaluation and depth to seasonal water table as indicated by drainage mottles.
- f) Depth to, and of, any impervious or highly restrictive layers.
- g) Any unusual feature or features including excessive stoniness, rockiness, rock out crops, concretions, pans, or extreme textural or color changes, including mottling.

2.5.6 Soil inspection pits shall be flagged and identified for easy location and safety.

2.5.7 It is recommended that soil inspection pits be dug by a backhoe. These pits shall be dug in such a manner as to allow safe and easy access to the soil profile. See Appendix Q of these Regulations.

2.5.8 Where the soil inspection pits are hand dug, such inspection pits shall be large enough to allow safe and easy access to the soil face to a depth of sixty (60) inches.

2.6 Percolation Test and Soil Inspection Pit Requirements for Non-Residential Structure Applications

2.6.1 Percolation test requirements:

- a) The percolation test data shall be certified by a engineer, land surveyor, or professional soil classifier. The seal or registration number of the submitting professional shall be applied to the test results and included in the application.
- b) Percolation test shall be performed in accordance with Appendix B of these Regulations.
- c) The minimum number of percolation tests shall be determined from Table 2.6.1 below. Where more than one percolation tests are required, they shall be evenly divided between the proposed primary and secondary areas. Where only one test is required, it shall be in the primary area.

Table 2.6.1

Estimated Sewage Flow GPD	*Minimum Number of Percolation Tests Required
500 or less	1
501 - 2000	2
2001 - 5000	3
5001 and up	4

* The Health Department may require more percolation test where marginal soil conditions exist.

2.6.2 Soil inspection pit requirements:

- a) Soil inspection pit data shall be certified by an engineer, land surveyor, or professional soil classifier. The seal or registration number of the submitting professional shall be applied to the data results and included in the application.
- b) Soil inspection pits shall be dug in accordance with Section 2.5 and Appendix Q of these Regulations.
- c) The minimum number of soil inspection pits shall be determined from Table 2.6.2 below. Soil inspection pits shall be evenly divided between the proposed primary and secondary areas. The minimum number of soil inspection pits shall be one in the primary and one in the secondary areas.

Table 2.6.2

Estimated Sewage Flow GPD	*Minimum Number of Soil Inspection Pits Required
500 or less	2
501 - 2000	4
2001 - 5000	6
5001 and up	8

* The Health Department may require more soil inspection pits where marginal soil conditions exist.

2.7 Wet Season Evaluation

- 2.7.1 Where the submitting professional or the Health Department has an indication by soil or site characteristics, experience, testing, previous test results, reports, or other information that a lot is unsuitable for on-site sewage disposal, the applicant, owner, developer or agent may request wet season evaluation of a lot by the Health Department.
- 2.7.2 Backhoe dug soil inspection pits shall be required for wet season evaluations.
- 2.7.3 At the sole discretion of the Health Department additional percolation tests may be required.
- 2.7.4 At the sole discretion of the Health Department monitoring wells may be required. See Appendix R of these Regulations.

2.8 Types of On-Site Sewage Disposal Systems

- 2.8.1 Conventional System: These systems shall consist of a standard septic tank(s) with either level header or serial distribution field lines which are eighteen (18) - twenty-four (24) inches wide and installed twenty-four (24) - thirty-six (36) inches deep in original soil. Field lines shall employ clean aggregate and utilize four (4) inch diameter perforated pipe and meet all requirements of Part 3.4 of these Regulations.
- 2.8.2 Non-Conventional Systems: These systems do not meet conventional standards, nor employ new or experimental technology. Examples include but shall not be limited to:
- a) Shallow placement systems, less than twenty-four (24) inches in depth.
 - b) Pump systems with less than or equal to forty (40) feet of head
 - c) Eight (8) and ten (10) inch diameter fabric wrapped pipe
 - d) Use of five hundred (500) gallons per day, NSF Class I approved aerobic treatment units on residential dwellings.
 - e) Oversized disposal areas, two hundred (200) linear feet of field lines per bedroom and greater.
 - f) Alternating disposal areas
 - g) Systems utilizing four (4) foot centers between field lines
 - h) Field lines wider than twenty-four (24) inches.
 - i) Field lines narrower than eighteen (18) inches.

- j) Systems installed on slopes greater than twenty-five (25) percent.
- k) Chambered systems

2.8.3 Alternate or Experimental Systems: These systems shall introduce or employ new or experimental technology.

- a) The Health Department may consider proposals for an alternate or experimental system and in so doing not be restricted by the Regulations provided, when in the sole opinion of the Health Department the success of the system would provide satisfactory treatment and disposal of sewage waste or solve existing sewage problems.
- b) These systems shall require specific written Health Department approval.
- c) These systems shall be submitted by an engineer.
- d) The Health Department shall require adequate maintenance for any alternate or experimental system.
- e) Organic loadings for on-site sewage disposal systems utilizing aerobic treatment units shall be computed based on loading rates as specified in Appendix J of these Regulations.
- f) Examples of Alternate or Experimental systems include but shall not be limited to the following:
 - 1) Low pressure distribution
 - 2) Systems installed partially or wholly in fill material
 - 3) Non-residential aerobic treatment units
 - 4) Residential aerobic treatment units greater than five hundred (500) gallons /day
 - 5) Pump system with greater than forty (40) feet of head.
 - 6) Systems installed deeper than thirty-six (36) inches.
 - 7) Slow rate land treatment (spray irrigation*)
*Residential spray irrigation systems require a minimum of five (5) acres.
 - 8) Constructed wetland systems

2.9 Standards for Approval of Lots Utilizing On-Site Disposal Systems

The following standards shall be met where on-site sewage disposal systems are proposed except as permitted under alternate or experimental systems. See section 2.8.3 of these Regulations.

2.9.1 Lot Size

- a) For residential lots developed after February 1, 1979, the minimum allowable lot size shall be 15,000 square feet if an approved public water supply is available. When an individual well is the proposed source of water the minimum lot size shall be 20,000 square feet. These lots shall have suitable area to install a primary disposal system and provide an area of equal size for the duplication of the original system. Neither the primary nor the duplication area shall be within one hundred (100) feet of a well.
- b) For residential lots developed prior to February 1, 1979 that are less than 15,000 square feet shall each be evaluated on its own merits, see Section 2.9.2 of these Regulations. A lot served by an individual well must have a minimum of 20,000 square feet. Lots less than 15,000 square feet shall have suitable area to install the primary disposal system and provide an area of equal size for duplication of the original system, see Section 2.9.2 of these Regulations.

2.9.2 Factors to be considered in the evaluation of lots less than 15,000 square feet, as in Section 2.9.1 (b), are:

- a) Area of lot in square feet
- b) Size and location of residential dwelling
- c) Number of bedrooms
- d) Site conditions as in Section 2.3.4 of these Regulations
- e) Previous construction or existing structures on the site
- f) Location of driveways and parking areas
- g) Any other factors in the sole opinion of the Health Department

2.9.3 No property shall be improved or developed in excess of its capacity to properly absorb sewage effluent in the quantities and by the means provided by these Regulations.

2.9.4 No lot shall be altered in such a manner that the existing on-site sewage disposal system or secondary area would be adversely affected or in a manner that will make the lot smaller than the stated accepted minimum size.

- 2.9.5 The lot size for non-residential structures shall be large enough for primary and secondary disposal areas as required by these Regulations.
- 2.9.6 Percolation rates shall be between five (5) minutes per inch (mpi) and sixty (60) mpi. Other rates may be acceptable but shall require additional evaluation and may require the use of an alternate or experimental system.
- 2.9.7 For soil textural classifications see Appendix P of these Regulations.
- a) Type 1- Sand, loamy sand, and sandy loam are considered to be slightly limited soil materials for on-site sewage disposal systems.
 - b) Type 2- Loam, sandy clay loam, silt, and silt loams are considered to be moderately limited soil material for on-site sewage disposal systems.
 - c) Type 3- Sandy clay, silty clay, clay loam, and Type 4- clay are severely limited soil materials for on-site sewage disposal systems.
- 2.9.8 Sites for primary and secondary disposal areas shall not have ground water or seasonal ground water elevations within eighteen (18) inches of the disposal trench bottom. This elevation may be determined by actual ground water observation or by the indication of soil characteristics such as mottling, concretions, color etc.
- 2.9.9 Sites for primary and secondary disposal areas shall not have bedrock, or any impervious layer such as certain clays and clay intermixed with broken shale within 18 inches of the disposal trench bottom. Boulders and soft sandstone which are capable of being removed or ripped with conventional septic tank installation equipment shall not be considered as being bedrock, but may be considered restrictive to water flow.
- 2.9.10 Sites for primary and secondary disposal areas on sloping terrain.
- a) For a conventional system maximum slope shall be twenty-five (25) percent.
 - b) For alternate or experimental systems the maximum slope shall be forty (40) percent.
- 2.9.11 Easements and Right-of-Ways
- a) Easement or right-of-way areas for underground utilities, surface or subsurface drainage areas shall not be used in computing lot sizes or as location for individual water supplies or on-site sewage disposal systems.
 - b) Easements or right-of-ways for overhead utilities may be used in computing lot sizes or as location of individual water supplies or on-site sewage disposal system if the holder of such easements or right-of-way areas specifically grants such usage in writing, a copy of which shall be included with the application.
 - c) Easements or right-of-way for roads or streets or thoroughfares shall not be used in computing lot sizes.

- d) Other easements, such as reservoir easements, shall not be used in determining the minimum lot size unless this meets the requirements established by the holder of that easement; however, the on-site sewage disposal system must meet all requirements of these Regulations.

2.9.12 Flood Prone Areas

- a) No lot shall be approved which is located wholly within a flood prone area.
- b) When a lot is located partially within a flood prone area, only that portion of said lot not within the flood prone area may be considered for approval. That portion of the proposed lot located within the flood prone area shall not be used in computing the usable land area for purpose of lot sizing.

2.9.13 Wells used as the source of water supply for individual lots shall not be located in a flood prone area.

2.9.14 Where all or part of the on-site sewage disposal system including the secondary disposal area is proposed to be installed on property other than where the sewage originates, an easement in perpetuity as recorded in a covenant to run with the land will be required. The easement shall be of sufficient area to permit access, construction, and maintenance of the on-site sewage disposal system.

2.10 Health Department Response to Application

2.10.1 After evaluation of the information submitted and investigation of site conditions, the Health Department shall:

- a) Approve, in writing, the construction plan layout and release said lot or lots for building permits; or:
- b) Approve, in writing, with necessary terms or conditions, the construction plan layout and release said lot or lots for building permits. These terms or conditions may include, but shall not be limited to:
 - 1) Septic tank size and location
 - 2) Disposal area size, shape, location, depth and fill material if required.
 - 3) Maximum sewage flow
 - 4) Low water use fixtures
 - 5) Pumps, check valves, force mains, sumps, emergency relief lines, high water alarms, maintenance manholes
 - 6) Additional inspections, if needed
 - 7) Preconstruction meeting or meetings

- 8) Any other conditions in the sole opinion of the Health Department.
- c) Recommend in writing any additional test or changes needed before approval may be granted; or
- d) Disapprove in writing with reasons therefore that the lot is not suitable for on-site sewage disposal.

2.10.2 Unless prior written approval is obtained from the Health Department, the on-site sewage disposal system shall be constructed as required by Paragraph 2.10.1 a) or b).

2.11 Approval Required to Use Existing On-Site Sewage Disposal System

2.11.1 Before a building permit can be issued for renovation of a premise, which is served by an on-site sewage disposal system, applicant must obtain written approval to use the existing on-site sewage disposal system from the Health Department. This approval is to insure that the integrity of the on-site sewage disposal system is not compromised by the proposed renovations, the on-site sewage disposal system is properly sized for the proposed renovations, and that no malfunction is occurring. No construction is to begin without this approval.

2.11.2 Before a permit can be issued to connect a mobile home to an existing on-site sewage disposal system, applicant must obtain a written approval from the Health Department to use the existing on-site sewage disposal system. This does not apply to mobile home/manufactured homes located in parks approved, permitted, and regularly inspected by the Health Department, see Chapter 7 of these Regulations.

2.11.3 If the septic tank has not been cleaned within five years of the date of application to use the existing on-site sewage disposal system, the septic tank shall be cleaned prior to any approval from the Health Department.

2.11.4 The existing on-site sewage disposal system shall be evaluated for upgrade based upon the following conditions:

- a) No part of the on-site sewage disposal system may be located under the existing or proposed structure. Exception to this would be where the addition is on piers (no enclosed foundation) and allows easy access to the sewage tank for cleaning and maintenance.
- b) For on-site sewage disposal systems with a malfunction, positive outlet, or encroachment, repairs shall be required.
- c) For residential dwellings with a net loss or no net gain in the number of bedrooms, no upgrade shall be required. Exception shall be that any septic tank constructed of concrete blocks, metal, or which is not watertight shall be upgraded to a septic tank which meets the requirements of these Regulations.

- d) For residential dwellings with a net gain in the number of bedrooms, an upgrade shall be required to meet the current Regulations for the structure that the on-site sewage disposal will serve.
- e) For non-residential structures the determination for approval of upgrade shall be based on projected water usage for the structure that is to be served.

2.12 Hardship Variances

2.12.1 Hardship variances may be granted by the Health Department under certain conditions. All hardship variances shall be medical in nature and will require the following information be submitted:

- a) A letter from the property owner requesting the variance and detailing the nature of the hardship.
- b) A letter from a physician certifying the medical aspect of hardship.
- c) Any supporting materials or materials requested by the Health Department.

2.12.2 Approval or disapproval of the request will be made in writing with conditions of approval or reasons for disapproval.

2.13 Approval Void After One Year

2.13.1 Approval to construct an on-site sewage disposal system shall be valid for one year from date of issuance.

- a) Any person applying for a building permit on a lot whose permit to construct an on-site sewage disposal system approval has expired shall resubmit all the necessary information as if the lot had never been approved.
- b) If a building permit was issued in the year after the approval to construct an on-site sewage disposal system was issued, then the approval to construct an on-site sewage disposal system is valid for the length of the valid building permit.

2.13.2 Previously approved lots, which are resubmitted for approval shall be re-approved when possible. Factors which may effect re-approval are, but are not limited to the following:

- a) Changes in site conditions, due to excavation, drainage, etc.
- b) Changes to the original proposal (lot size, house size, number of bedrooms, etc.)
- c) Additional or new information
- d) New test results

2.14 Zoning Approval Not Implied

Approval of any lot by the Health Department for the installation of an on-site sewage disposal system does not constitute or imply approval by the County or appropriate municipal agency having zoning or other jurisdiction.

2.15 Revocation of Approval

2.15.1 When any lot has been approved, such approval may be revoked when:

- a) In the sole opinion of the Health Department, conditions of any lot have so changed, or in the actual use of on-site waste disposal system on other lots in vicinity of subject lot has shown that the use of on-site sewage systems on such lot would become a menace to the public's health.
- b) The subject lot is not being developed in accordance with provisions of these Regulations or conditions of approval.
- c) Information submitted for approval was erroneous or was falsified by the applicant or submitting professional.
- d) New information is discovered showing the site to be unsuitable for on-site sewage disposal.
- e) An on-site sewage disposal system is not being or has not been installed as approved by the Health Department.

Chapter 3

Installation and Inspection Requirements

3.1 Permit Required to Install an On-Site Sewage Disposal System

No person shall begin the installation or construction of any new on-site sewage disposal system until the owner has made application for and received a permit to construct an on-site sewage disposal system from the Health Department, see Part 2.1 of these Regulations. This requirement shall apply to all developments, including lots in approved subdivisions which will utilize on-site sewage disposal systems.

3.2 Inspection and Approval Required for Use

3.2.1 The Health Department may make inspections during construction to determine that compliance has been made with the approved construction layout, conditions of approval, and these Regulations. The installation shall not be covered until approval, in writing, has been obtained from the Health Department.

3.2.2 Once an on-site sewage disposal system has been built, but prior to use, the Health Department may make additional inspections to assure that the system is not damaged by grading or construction activities.

3.2.3 No structure requiring an on-site sewage disposal system shall be occupied or used for any residential or non-residential purpose until a permit for use has been issued by the Health Department.

3.2.4 Conditions of approval required by the Health Department shall be in compliance prior to issuance of a permit for use. The Health Department shall determine, in its sole discretion as to the extent to which the on-site sewage disposal system has met conditions of approval and whether a permit for use may be issued.

3.2.5 The Health Department may issue a permission to cover which will allow an installer to cover existing work. This permission to cover is not a permit to use. Further inspections may be required and a permit to use shall be required prior to occupancy. In certain cases uncovering work already covered may be required.

3.3 Location and Minimum Horizontal Distance Clearance of On-Site Sewage Disposal System

3.3.1 The following table specifies minimum horizontal clearance for the item listed in the table and the septic tank and the disposal field.

Table 3.3.1

	Sewage Tank (ft)	Disposal Field (ft)
Individual Water Supply (where not prohibited)	100	100
Property Lines	5	5
Potable water lines and all other utility lines	5	5
Dwellings	5	10*
Surface waters, lakes, ponds creeks and rivers	50	50
Distance from intake when used as a potable water supply	100	100
In-ground swimming pools (as measured from excavation)	15	15
Natural or man-made drainage	15	15
Sinkhole	300**	300**
Retaining walls and vertical cuts	15	15

* Except where finished grade of field lines are below footing grade, 5 feet horizontal clearance is permissible.

**Unless the sponsor submits a report prepared by a qualified geologist which specifically states that there is no danger of contamination of ground water aquifers or of further enlargement of the sinkhole.

3.3.2 No underground potable water lines; utility lines, pipes, or cables shall be installed across, through or under the primary or secondary disposal areas, see Table 3.3.1 of these Regulations for horizontal clearance distances.

3.3.3 The primary and secondary disposal areas for the sewage tank and soil disposal field shall be selected and maintained so that they are free from encroachments by accessory buildings, additions to main buildings, swimming pools, etc., and heavy equipment during construction. In addition, the area under driveways may not be used as primary or secondary disposal areas, in whole or in part, unless specifically approved by the Health Department in writing.

3.4 Construction and Installation of the On-Site Sewage Disposal System

- 3.4.1 It shall be the duty and responsibility of the certified installer to install each new on-site sewage disposal system in accordance with these Regulations and the special conditions contained in the permit to construct. The certified installer shall contact the Health Department prior to construction of the on-site sewage disposal system, in the event problems arise that prevent the system from being installed as shown on the plot plan. An approved copy of the permit to construct and construction plan layout shall be on the site during installation of the on-site sewage disposal system.
- 3.4.2 The pipe size from building drain to septic tank inlet (including ell) shall not be less than three (3) inches in diameter (inside diameter) and shall meet the plumbing code requirements of the appropriate jurisdiction.
- 3.4.3 Sewage tanks shall be installed on undisturbed or well-compacted soil and shall be level from side to side and end to end. All sewage tanks installed with lids deeper than twelve (12) inches from finished grade shall have a minimum of eighteen (18) inch diameter manhole flush with finished grade on inlet and outlet sides.
- 3.4.4 Schedule 40 PVC pipe or equivalent not less than three (3) inches inside diameter shall be used from the sewage tank outlet to an area not less than twelve (12) inches onto undisturbed soil.
- 3.4.5 The joint connection from the sewage tank outlet tee branch to the effluent or header line shall consist of one of the following:
- a) When connecting to a three (3) inch diameter tee, the connection shall consist of a four (4) inch diameter corrugated pipe pushed a minimum of twenty-four (24) inches onto the three (3) inch diameter Schedule 40 PVC pipe and secured with a single adjustable stainless steel band.
 - b) When connecting to a four (4) inch diameter tee, the connection shall consist of the bell end of a section of four (4) inch diameter corrugated pipe pushed over the four (4) inch diameter Schedule 40 PVC pipe from the septic tank tee and secured with an adjustable stainless steel band. This connection shall be further accomplished by using two (2) twenty (20) inch sections of split four (4) inch diameter non-perforated, corrugated plastic pipe sections extended ten (10) inches on each side of the connection point. The first twenty (20) inch section placed with the split upward, and the second twenty (20) inch section placed with split downward and secured with two adjustable stainless steel bands, see Appendix L of these Regulations.
- 3.4.6 The conventional disposal field shall be of the level header or serial distribution system, depending on the site characteristics.
- a) A level header system may be used where the ground area to be utilized for the disposal field does not exceed a maximum fall of twelve (12) inches, see Appendix G of these Regulations

- b) A serial distribution system shall be installed where the ground area to be utilized for the disposal field exceeds a fall of twelve (12) inches between each disposal line, see Appendices F-1a and F-1b of these Regulations
- c) Crossovers or spillovers shall not be counted when determining total linear footage of field lines.

3.4.7 Any header lines installed shall be at least four inches in diameter and shall be laid level. The header line shall be of durable material with tight joints. Filter material may be used under the header line. Any header line installed under paving, parking or other areas of vehicular traffic shall be at least Schedule 40 PVC.

3.4.8 The bottom of each trench shall be level within a maximum grade of two (2) inches per one hundred (100) feet.

3.4.9 The trench shall follow approximately the ground surface and contours so that variation in trench depth shall not exceed twelve (12) inches.

3.4.10 Unless otherwise approved or specified by the Health Department, the maximum depth of a trench shall be thirty-six (36) inches and the minimum depth shall be twenty-four (24) inches.

3.4.11 Unless otherwise approved or specified by the Health Department, there shall be a minimum of five (5) feet of undisturbed earth between adjacent trenches.

3.4.12 Care must be exercised in constructing crossover or relief lines to ensure an undisturbed block of earth remains between the trenches. The trench for the relief pipe, where it connects with the preceding absorption trench, shall not be dug deeper than the top of the gravel, see Appendix F-2 of these Regulations. The relief line shall be at least four (4) inches lower than the invert of the septic tank outlet. Crossovers shall be perpendicular (approximately) to the absorption trenches, unless otherwise approved by the Health Department. Spillovers in-line with the absorption trench are not acceptable without specific approval of the Health Department.

3.4.13 All systems utilizing serial distribution shall be designed with a minimum of one crossover or relief line for trenches less than or equal to one hundred (100) feet in length, see Appendix F-1A of these Regulations. A minimum of two crossover or relief lines for trenches greater than one hundred (100) feet in length except where otherwise approved by the Health Department, see Appendix F-1B of these Regulations.

3.4.14 All trenches and effluent disposal lines in the soil disposal area shall conform to the following:

- a) Minimum width of trenches shall be eighteen (18) inches, except as otherwise approved by the Health Department.
- b) Maximum grade of effluent distribution lines shall be two (2) inches per one hundred (100) feet.

- c) Minimum diameter of effluent disposal pipe shall be four (4) inches internal diameter (I.D).
- d) Effluent disposal lines shall be:
 - 1) Constructed of rigid or semi-rigid plastic pipe
 - 2) In lengths no longer than ten (10) feet
 - 3) Perforated with at least three-fourth (3/4) inch openings on four and one-half (4-1/2) inch centers (approximately) and a minimum of three rows.
- e) Effluent disposal lines and filter material shall be protected by the use of building paper, straw, or similar materials approved by the Health Department.
- f) Filter material shall be of crushed stone, gravel, slag, or material of equivalent strength and durability and shall be no less than one fourth-inch (1/4) nor more than two and one-half (2-1/2) inches in size. Filter material shall be free of dust or very fine particles.
- g) Effluent disposal lines shall have a minimum of two (2) inches of filter material cover over top of pipe and a minimum of six (6) inches of filter material below the pipe.

3.4.15 Trenches shall not be excavated when the soil is wet enough to smear or compact easily. If the soil is saturated to such an extent that it appears to be sealing, the installer shall notify the Health Department and request assistance before proceeding with the installation. Severe smearing or failure to notify the Health Department of such conditions may void the approval or cause the installation permit for use to be denied.

3.4.16 The disposal area shall be protected against vehicular traffic prior to, during, and after on-site sewage disposal system installation. If specifically approved in writing by the Health Department, traffic lids as prescribed in Section 5.2.11 of these Regulations may be used and traffic may be allowed to cross the septic tank.

3.5 Additional Requirements for Non-Residential Structures

3.5.1 Low water-use fixtures are required for all non-residential structures which utilize on-site sewage disposal.

3.5.2 Maintenance manholes are required over each end of the sewage tank and one manhole over the pump sump for all non-residential structures.

3.6 Residential Dwellings Utilizing Separate Disposal Lines

3.6.1 A separate effluent disposal line for washing machine waste may be installed. The separate effluent disposal line shall equal to a minimum of twenty (20) percent of the

total effluent disposal line footage required but in no case shall the washer line be less than seventy-five (75) feet or the remainder of the system less than three hundred (300) feet. See Table 3.6.1 for examples of required footage.

Table 3.6.1

EXAMPLES

Bedrooms	Required Footage	Length of Washer Line	Remaining	Total
2	300	75	300	375
3	375	75	300	375
3	450	90	360	450
3	525	105	420	525
4	500	100	400	500
4	600	120	480	600

3.6.2 Separate grease traps and effluent disposal lines are not recommended by the Health Department for residential use.

3.7 Pump Systems

3.7.1 Requirements for on-site sewage disposal systems utilizing a pump. The basic parts of a pump system are: An Underwriters Laboratory (U.L.) approved sewage ejector pump, pump sump, force main, check valve, high water alarm, gravity flow emergency relief.

- a) Only U.L. approved sewage ejector pumps shall be allowed. Pumps shall be properly sized by the pump manufacturer or representative, an engineer, or other qualified individual to insure the pump has adequate capacity to distribute effluent to the primary or secondary disposal area.
- b) The pump sump shall have a minimum capacity of 230 gallons and shall be constructed as required by Parts 5.6 and 5.7 of these Regulations. Any pump sump installed with the lid deeper than twelve (12) inches from finished grade shall have a minimum of eighteen (18) inches diameter manhole flush with finished grade.
- c) The force main shall be constructed of proper diameter schedule 40 PVC or equivalent. The diameter of the force main shall be sized by the pump manufacturer, engineer, or other qualified individuals.
- d) A check valve shall be properly installed in the force main between the pump and the disposal field. The valve shall be within twenty-four (24) inches of the pump outlet and within the pump sump.
- e) A high water alarm shall be installed in a conspicuous location preferably in or on the building structure. Alarms may be audible, visual, or both. Pumps and alarms shall be inspected and tested in operation prior to issuance of the permit to use.

- f) Every pump system shall have a means of gravity flow emergency relief. Approvable methods are as follows:
- 1) A fifty (50) to one hundred (100) foot emergency relief line shall be installed in an area where it is reasonably certain that ground water would not create a malfunction of the system. Conventional field line and/or fabric-wrapped pipe installed in accordance with these Regulations shall be acceptable. Inlet ells and outlet tees are not required from the sump to the emergency relief line, however, three (3) or four (4) inch diameter schedule 40 PVC pipe shall be required from the pump sump outlet to an area no less than twelve (12) inches onto undisturbed earth.
 - 2) An enlarged capacity pump sump, 1000 gallon septic tank as a minimum, shall be used as a pump sump and set up to have approximately 800 gallons of emergency storage capacity.
 - 3) If elevations allow, a field line associated with the primary disposal field may be connected for emergency relief provided at least fifty (50) to one hundred (100) feet of field line is available.

3.7.2 The Health Department shall observe the pump in operation and discharging to the field lines prior to issuance of the permit to use.

3.8 Installation of Curtain Drains

3.8.1 The Health Department may require the installation of curtain drains when there is a possibility of laterally moving ground water affecting an on-site sewage disposal system.

3.8.2 When curtain drains are required by the Health Department as a condition of approval, they shall be constructed by a certified installer.

3.8.3 Curtain drains shall be considered as part of the disposal system and shall be inspected by the Health Department.

3.8.4 A typical curtain drain is shown in Appendix S of these Regulations.

3.9 Sanitary Pit Privies

3.9.1 A pit privy for new construction shall be approved only for installation in remote locations but in no case shall such installations be permitted for buildings with indoor plumbing or served by water under pressure.

3.9.2 A pit privy shall be located in accordance with the requirements of Sections 2.9.8, 2.9.9, and 3.3.1 of these Regulations.

3.9.3 The excavation or pit shall be:

- a) At least three and one-half (3-1/2) feet square.
- b) Five (5) feet deep below ground surface.
- c) Fitted with a restraining curb to prevent caving and with adequate openings to allow liquids to seep into surrounding soil.
- d) Located or constructed on a mound to provide drainage of roof water away from the pit to prevent erosion or caving.

3.9.4 The floor shall:

- a) Cover the pit tightly to prevent entrance of flies.
- b) Rest on a suitable foundation to prevent settling, sagging, erosion, or caving.

3.9.5 The foundation, floor, and seat riser shall be of concrete or other impervious materials that will not warp, crack or develop openings sufficiently large for the entrance of insects or leakage of excreta. The floors and seat risers shall not be constructed of wood.

3.9.6 The seat riser shall be:

- a) Fitted with a seat and a self-closing cover to effectively prevent the entrance of flies when privy is not in use.
- b) Vented to a point above the roofline.
- c) Joined to the floor forming a water and insect tight seal.

3.10 Portable Toilets

3.10.1 Approval for the installation and use of portable toilets sites, construction sites, revivals, special events, encampments and other temporary locations where numbers of people congregate for periods of short duration shall be required. Construction, installation, maintenance, and utilization shall conform to requirements of this Part.

3.10.2 The number of portable toilets provided shall be determined in accordance with Appendices I-1, I-2, and I-3 of these Regulations.

3.10.3 Portable toilets shall be portable and self-contained.

3.10.4 The waste receptacle shall be:

- a) Non-absorbent
- b) Acid resistant
- c) Non-corrosive

- d) Easily cleanable material
- e) Water-tight
- f) Fly tight.

3.10.5 Floors and interior walls shall have a nonabsorbent finish and be easily cleanable.

3.10.6 All units shall be adequately provided with toilet tissue.

3.10.7 All units for male use shall be provided with urinals.

3.10.8 All units shall be kept clean and deodorized to prevent a nuisance due to odor, flies, mosquitoes, or rats.

3.10.9 All units shall be provided with a self closing door and a privacy latch.

3.10.1 A maintenance contract for pumping must be provided, at the time of application, with a person who holds a valid certificate of competency as required in Chapter 8 of these Regulations.

3.11 Alternate or Experimental Systems

3.11.1 The Health Department may consider proposals submitted by an Engineer, for an alternate or experimental on-site sewage disposal system as outlined in Section 2.8.3 of these Regulations.

3.11.2 Any new device, equipment, disposal method, technique, or technology shall be subject to Health Department policy or requirements until applicable regulations are promulgated.

3.11.3 No alternate or experimental on-site sewage disposal system shall be installed without a permit to construct. The Health Department may make inspections during installation to determine that the system is being installed as permitted.

3.11.4 The installation shall not be covered until approval, in writing, has been obtained from the Health Department.

3.11.5 The applicant shall provide assurance that adequate maintenance is and shall be continuously available for any aerobic treatment unit after installation.

3.12 Abandonment of Septic Tank

When use of a septic tank is discontinued, the septic tank shall be abandoned and its further use prohibited. An abandoned septic tank shall be pumped out, then the bottom shall be opened or ruptured to prevent the tank from retaining water and finally the tank shall be filled with a suitable material.

3.13 Grease Traps

Grease traps shall be required for all commercial establishments which prepare or serve food. Grease traps shall be not less than 1000 gallons in capacity and shall be constructed as shown in Appendix T of these Regulations. Grease traps are not recommended for residential use.

Chapter 4

Maintenance and Repair of On-site Sewage Disposal Systems

4.1 Maintenance Responsibility

Any person owning or controlling property upon which an on-site sewage disposal system is installed shall be responsible for maintenance of the system. The following criteria shall be met to assure proper system maintenance.

- 4.1.1 Systems shall be maintained at all times to prevent seepage of sewage or effluent to the surface of the ground or contamination of the ground waters. Ground waters include both surface and subsurface waters.
- 4.1.2 Sewage tanks are recommended to be checked at least once every three to five years, or once a year if garbage grinder discharges to the tank, to determine if sludge and scum needs to be removed.
- 4.1.3 Grease traps shall be cleaned as often as necessary to maintain at least fifty (50) percent of retention capacity.
- 4.1.4 Aerobic treatment units shall be maintained annually by a manufacturer trained representative or person completely knowledgeable of the unit to be serviced and in the business of servicing aerobic units.

4.2 Requirements for Repair or Modification of Soil Disposal Field

- 4.2.1 Before any repairs or additions to the soil disposal field of any on-site sewage disposal system may be undertaken, a permit to repair shall be obtained from the Health Department to make repairs or additions to said soil disposal field. This requirement may be fulfilled provided the owner of the on-site sewage disposal system which is to be repaired completes the waiver form as presented in Appendix N of these Regulations. All portions of this form shall be completed and shall be good for conventional on-site sewage disposal system repairs only.
- 4.2.2 After repairs or additions to any soil disposal field have been completed but prior to covering, the same shall be inspected and construction approved in writing by the Health Department.
- 4.2.3 Repairs to crossovers associated with disposal fields may be made without written permit from the Health Department provided the installer notifies the Health Department by telephone prior to the beginning of said crossover repairs and said repairs are not covered for a period of one hour after repairs are completed.
- 4.2.4 No swimming pool shall be constructed on any lot upon which an on-site sewage disposal system has been installed until property owner has verified that installation of

the swimming pool will not encroach on the primary or secondary disposal areas. If the swimming pool would encroach on the existing primary or secondary disposal areas pool construction shall be allowed only if adequate area may be designated to replace that part of the primary or secondary disposal area which will be encroached upon. Any repairs or modifications to the existing on-site sewage disposal system shall be performed in compliance with Part 4.2 of these Regulations.

- 4.2.5 Secondary disposal areas shall remain free of encroachments until such time as the on-site sewage disposal system is abandoned and the structure is connected to public sewer.
- 4.2.6 No residence served by an on-site sewage disposal system after completion of repairs or modifications to said system shall have less than three hundred (300) total linear feet of field lines in service to the residence. The Health Department in its sole discretion may allow less footage where it is physically impossible due to lot size or where it has been proven by previous use that less than three hundred (300) linear feet of field lines has functioned satisfactorily.
- 4.2.7 All on-site sewage disposal system repairs or modifications shall meet the requirements of these Regulations, unless prior written approval is obtained from the Health Department. No repair requiring non-conventional or alternate means shall be made without specific approval from the Health Department.
- 4.2.8 The Health Department may grant a variance from a specific provision of these Regulations in a particular case, subject to appropriate conditions, where an existing sewage disposal system is malfunctioning or where there exists the danger that existing systems will fail, thereby creating problems of public health significance.

4.3 Requirements of Cleaning and Repairing Septic Tanks

4.3.1 Information required:

- a) Persons engaged in the cleaning or maintaining on-site sewage disposal systems shall, prior to cleaning any on-site sewage disposal system, notify the Health Department and provide the following information:
 - 1) Address of sewage tank to be cleaned.
 - 2) Date sewage tank is to be cleaned.
 - 3) Time sewage tank is to be cleaned.
 - 4) Owner of sewage tank.
 - 5) Where the sewage taken from tank is to be disposed.

Sewage tank cleaning which occurs after normal work hours of the Health Department shall be reported on the next Health Department workday.

Sewage tank cleaning associated with mortgage request or permission to use applications shall be scheduled during normal work hours, twenty four (24) hours in advance to insure that a Health Department inspector is on site during cleaning.

- b) The sewage cleaner shall record on forms provided by the Health Department the following information and shall submit said forms to the designated employee at the approved disposal sites when sewage wastes are disposed.
- 1) The Certificate of Competency number.
 - 2) Address or addresses of origin of sewage waste collected.
 - 3) Type of facility cleaned.
 - i) Septic tank
 - ii) Grease trap
 - iii) Other type of on-site sewage disposal tank.
 - 4) Date facility cleaned.
 - 5) Volume of sewage wastes disposed.
 - 6) Time sewage tank cleaned.
 - 7) Name of sewage tank cleaner.
 - 8) Time sewage disposed.
 - 9) Bacteria: active_____ inactive_____
 - 10) Water level: correct_____ flooded_____
- c) If any cleaner or installer undertakes to make repairs to any tank in connection with and related to cleaning same, he shall report to the Health Department within five days from date of said repairs the following information:
- 1) The address of the facility repaired.
 - 2) Date and time the facility is repaired.
 - 3) The nature of the repairs.

4.3.2 Sewage Tank Openings

- a) The cleaner shall cause any tank that has been cleaned to remain open for a period of time not less than one hour from the time said cleaner notifies the Health Department of the time the tank is to be cleaned.

- b) The cleaner shall at the time of cleaning of tank open the tank in such a manner so as to allow visual inspection of all compartments and the inlet and outlet fixtures.
- c) The inlet, outlet, and baffle of the septic tank shall be inspected to determine if repairs to same are needed. The cleaner if authorized by the owner, lessee, or person responsible shall make the necessary repairs before placing covers on the septic tank after cleaning. If the cleaner is not authorized by the owner, lessee, or person responsible to make the repairs, he shall include such information in the report required in Paragraph 4.3.1b of these Regulations.

4.3.3 For the purposes of this Part, the term tank, whether septic, sewage, or other, includes any closed pipe downstream from the tank outlet but does not include any of the soil disposal field or crossovers.

4.3.4 No person shall be allowed to clean tanks unless proof has been furnished satisfactory to the Health Department that said person:

- a) Operates suitable and adequate equipment, and
- b) Has obtained permission in writing from the appropriate governmental agency or unit controlling ultimate sewage disposal for the dumping of sewage into a sewage treatment facility or sewer system, and
- c) Has a certificate of competency as required in Chapter 8 of these Regulations.

4.4 Disposal of Sewage

No sewage shall be disposed of by any person except in a manner and at a disposal site approved by the Health Department, Jefferson County Engineering Department, or the State of Alabama Department of Public Health.

4.5 Sewage Tank Cleaning Truck Requirements

4.5.1 All sewage tank cleaning trucks shall have a minimum capacity of 1500 gallons.

4.5.2 All openings on the cleaning truck's carrier tank and piping shall be sealed to prevent leaks or spillage.

4.5.3 A sign with letters at least six (6) inches in height shall be displayed on each side of the truck showing the name, address, telephone number, and Health Department permit number. The Health Department permit sticker shall be conspicuously displayed on the carrier tank behind the driver's door.

4.5.4 The carrier tank used for collecting, removing, and transporting the contents of the sewage tanks shall be conspicuously and permanently labeled "FOR SEWAGE ONLY" at or near the inlet and outlet valves of the tank. This lettering shall be at least three inches in height. The use of the carrier tank for any other purpose is prohibited.

Chapter 5

Septic Tanks and Grease Traps

5.1 General Design Requirements for Septic Tanks

- 5.1.1 Design of the septic tank shall be such as to assure uniform horizontal flow throughout its entire length, permitting adequate retention and access for cleaning.
- 5.1.2 Each tank shall be designed so that they shall not collapse or rupture when subjected to anticipated earth and hydrostatic pressures when the tanks are either full or empty.
- 5.1.3 Each tank shall have no less than two (2) compartments. Where only one tank is used, the baffle forming the compartments shall be so located that the inlet compartment shall comprise two thirds (2/3) of the effective liquid capacity.
- 5.1.4 The design capacity of a tank shall be as specified and approved by the Health Department, but shall not be less than two (2) times the estimated daily sewage flow. For residential dwellings the design capacity shall be determined in accordance with Appendix D of these Regulations.
- 5.1.5 The length of the tank shall be one and one-half (1-1/2) to two (2) times the width. The minimum inside width of a septic tank shall not be less than three (3) feet.
- 5.1.6 The minimum effective liquid depth of a septic tank shall be three (3) feet and the maximum effective liquid depth shall be six (6) feet. Greater liquid depths shall require special consideration and approval by the Health Department.
- 5.1.7 A minimum air space of eight (8) - twelve (12) inches shall be provided between the liquid surface and the underside of the top of the tank.
- 5.1.8 The tank's inlet ell or tee and an outlet tee shall be constructed of Schedule 40 PVC or equivalent. The inlet ell or tee shall extend at least eighteen (18) inches below the water level. The invert of the outlet tee shall be at least three (3) inches below the invert of the inlet ell or tee and shall extend at least six (6) inches above and eighteen (18) inches below the water level. A special outlet structure may be proposed by an Engineer for consideration by the Health Department for special projects or for standard usage by the septic tank manufacturer or installer.
- 5.1.9 The baffle forming the two (2) compartments shall have an opening four (4) inches wide extending the width of the baffle and located twelve (12) inches below the water level measured to the top of the opening. Allowance shall be made for adequate support of the upper portion of the baffle. A space of two (2) inches shall be provided between the top of the baffle and the underside of the tank cover. Two (2) inch by four (4) inch openings shall be provided in bottom corners for the baffle wall.

5.2 Tanks Constructed of Concrete

- 5.2.1 Septic tanks built of concrete shall be pre-cast or poured in place, see Appendix O of these Regulations.
- 5.2.2 Concrete septic tanks shall be designed by mix and water-cement ratio for a minimum unit compressive strength of 3000 pounds per square inch at twenty eight (28) days of curing.
- 5.2.3 Concrete septic tanks shall be watertight, free of voids or pits with walls reasonably straight and plumb.
- 5.2.4 Concrete shall be placed in the forms at a rate such that the concrete is plastic at all times and consolidates in all parts of the form and around all reinforcement steel and embedded fixtures without segregation of materials.
- 5.2.5 Reinforcement shall be securely tied in place to maintain position during concrete placing operations. The minimum concrete cover for reinforcing bars, mats, or fabric shall not be less than one (1) inch.
- 5.2.6 Poured or constructed in place concrete septic tanks shall be built in accordance with good construction practices. All septic tanks shall have adequate steel reinforcing to maintain structural integrity. All reinforcement shall have a minimum of one (1) inch of concrete cover.
- 5.2.7 Pre-cast concrete septic tanks with capacities of less than 1200 gallons shall have minimum wall and bottom thickness of two (2) inches. Pre-cast septic tanks with capacities of 1200 gallons or more shall have minimum wall and bottom thickness of three (3) inches. Pre-cast concrete septic tanks shall have adequate steel reinforcing to facilitate handling, but as a minimum shall have six (6) inch x six (6) inch, #10 gauge welded steel wire reinforcement, see Appendix O of these Regulations.
- 5.2.8 Septic tanks of concrete poured in place shall have minimum wall and bottom thickness of four (4) inches.
- 5.2.9 Septic tanks with capacities of less than 1200 gallons shall have lids or tops of concrete with minimum thickness of three (3) inches when pre-cast and four (4) inches when poured in place. Septic tanks with capacities of 1200 gallons or more shall have lids or tops with minimum thickness of four inches. Lids shall be reinforced in accordance with current engineering practices and as approved by the Health Department.
- 5.2.10 Openings in the top of the septic tank shall be provided over each compartment to enable effective removal of solids from all parts of the tank. Said openings to be no less than eighteen (18) inches in diameter or eighteen (18) inches by eighteen (18) inches square.
- 5.2.11 Vehicular traffic lids shall be designed and constructed to protect the tank from the superimposed load from vehicles driving directly over the tank. Manufacturer of the

vehicular traffic lid shall certify the design and construction of the lid will support without failure the expected load for the proposed installation.

5.2.12 Bottom of concrete septic tanks shall be constructed in one piece. Water stops or other sound construction techniques shall be used in making the walls an integral part of the bottom.

5.3 Tanks Constructed of Plastic or Fiberglass

5.3.1 Each plastic or fiberglass tank and manufacturer shall conform to Parts 5.1 and 5.6 of these Regulations.

5.3.2 All plans, drawings, design standards and specifications shall be certified by an engineer with knowledge and experience with fiberglass and plastics.

5.3.3 Each tank shall be of uniform thickness and free from defects that may affect their water-tightness, serviceability, or durability. Completed tank shall present a smooth finish both inside and outside, free of spalls, pits, and honeycombs.

5.3.4 Shell components for each tank may be welded together with an appropriate bonding material at the septic tank installation site.

5.3.5 Test reports from an independent testing laboratory may be required by the Health Department to substantiate a manufacturer's tank design.

5.3.6 Each fiberglass and plastic tank shall have clear concise instructions from the manufacturer for the proper installation of the tank.

5.4 Grease Traps

5.4.1 All grease traps which are or are intended to be installed, constructed, prefabricated, precast, offered for sale or sold shall be in accordance with these Regulations.

5.4.2 Grease traps are not recommended for use with residential septic tank systems.

5.4.3 Commercial food preparation establishments shall install a grease trap on the kitchen waste line. Those establishments which by the nature of their operations or the product proposed, produce little grease waste may be excluded from this requirement.

5.4.4 The grease trap shall be designed in accordance with current engineering standards and in accordance with Appendix T of these Regulations.

5.4.5 The grease trap shall be constructed so as to allow:

- a) The grease in suspension to cool and rise to the surface and
- b) Be large enough to hold the grease laden wastes long enough to allow this cooling to take place.

5.4.6 The grease trap, when installed, shall be placed at an accessible location outside the building where it can be easily pumped and maintained and the effluent disposed of in a manner approved by the Health Department.

5.4.7 The grease trap shall be constructed in accordance with the following specifications:

- a) The effluent line from a grease trap shall be connected to the house sewer or to a separate effluent disposal system to afford final disposal of grease laden wastes by an approved method.
- b) The minimum capacity for a grease trap, for new construction, shall be 1000 gallons. In no case shall the minimum capacity provide for less than two (2) days retention.
- c) The inlet to the grease trap shall be either a three (3) or four (4) inch diameter PVC or equivalent tee in accordance with local jurisdiction plumbing code.
- d) The grease trap shall have a "tee" on the outlet. The outlet "tee" shall extend at least six (6) inches above and to within twelve (12) inches of the tank bottom. The invert of the outlet shall be three (3) inches below the invert of the inlet. A grease trap shall have more than one (1) compartment but in no case shall the outlet "tee" be omitted. See Appendix T of these Regulations.
- e) The top of the grease trap shall be located at or above the ground level. Where this is not practical, manholes shall be provided from the top of the grease trap to the surface level.

5.5 Pump Sump

5.5.1 A pump sump shall be constructed of any material approved for the construction of a septic tank. A pump sump shall meet the applicable requirements set forth in these Regulations for a septic tank made of that material.

5.5.2 A pump sump shall meet the requirements of Part 5.6 of these Regulations.

5.5.3 Minimum pump sump capacity shall be 230 gallons.

5.6 Approval of a Prefabricated Septic Tank, Pump Sump, or Grease Trap

5.6.1 Manufacturer of a prefabricated septic tank, pump sump, or grease trap shall submit plans and specifications in duplicate for all such tanks to the Health Department. Such plans and specifications shall show all dimensions, reinforcing, structural calculations, and such other pertinent data as may be required by the Health Department.

5.6.2 Independent laboratory tests and calibrations may be required by the Health Department on any prefabricated tank, the cost of which shall be assessed against the

manufacturer. The Health Department may also require certification by a Structural Engineer concerning the structural strength of the proposed tank.

- 5.6.3 Written approval for each set of tank plans shall be provided by the Health Department.
- 5.6.4 The Health Department shall issue a permit and assign a number to the manufacturer whose plans have been approved and maintain a listing of permitted manufacturers.
- 5.6.5 Any violation of these Regulations may result in the revocation of the permit for a specified tank series.
- 5.6.6 Permits are not transferable.
- 5.6.7 Each septic tank, grease trap, and pump sump installed shall be obtained from a manufacturer permitted by the Health Department.
- 5.6.8 Each septic tank, pump sump, or grease trap shall be clearly marked by indentation, waterproof paint, or other approved means with the assigned manufacturer's number, date of tank manufacture, and the liquid capacity in gallons. This identification marking shall be on the outlet end of the septic tank or grease trap so that it is readily visible after installation and prior to covering.
- 5.6.9 Prior to shipping the first tank in an approved series, the tank shall be inspected by the Health Department at the plant site for compliance with approved plans. The manufacturer shall allow forty-eight (48) hours to make said inspection.
- 5.6.10 The Health Department may in its sole discretion make periodic inspections at the manufacturing facility to determine if the tanks and/or tank forms comply with the Regulations.
- 5.6.11 The issuance by the Health Department of a permit for an approved tank series shall not imply acceptability or approval of an individual tank at the construction site.

5.7 Manhole Covers

Manhole covers shall be constructed of cast iron, concrete, or other material approved by the Health Department.

Chapter 6

Subdivision Regulations

6.1 Approval Required

6.1.1 No person shall develop or commence development of a subdivision, an addition to a subdivision, or record a subdivision without first making application for and obtaining written approval from the Health Department.

6.2 General Provisions

6.2.1 The sponsor or developer shall employ an Engineer to do the necessary work and recommend the proper and adequate methods of water supply and sewage disposal for the proposed subdivision.

6.2.2 Except as provided in Part 6.3 of these Regulations any person making application for approval to develop a subdivision shall submit both a Preliminary and Final Report and comply with all requirements of these Regulations. At the discretion of the submitting Engineer the Preliminary Report requirements of Part 6.4 of these Regulations may be combined with the Final Report.

6.2.3 Reports shall be signed in all appropriate places by the sponsor. A representative may sign for the sponsor provided a power of attorney authorizing such representation is filed with the report. The sponsor's mailing address and phone number shall be included in the report.

6.2.4 Capped lateral sanitary sewers shall be installed in subdivisions proposing to use on-site sewage disposal systems in drainage areas served or proposed to be served by a trunk sanitary sewer. Requirement of capped sewers will be determined by the Health Department in accordance with the Capped Sewer Resolution adopted by the Board.

6.3 Exceptions to the Subdivision Regulations

6.3.1 The following activities shall not be considered creating a subdivision for the purposes of these Regulations:

- a) Dividing a parcel of land for the purpose of a bona fide gift.
- b) Dividing a parcel of land under the provisions of a will or under the laws of intestate succession.
- c) Dividing the original parcel into no more than four tracts with no street construction or utility installation involved. Any further division of this original

parcel will require submittal of all information as required under these Regulations.

6.3.2 Land subdivided for single-family residential purposes into lots of not less than three acres in size shall not be subject to these Subdivision Regulations where said lots:

- (a) Do not have access to a public sewer system and have a plat restriction that the land will not be further divided into parcels of less than three acres in size until such lots have access to a public sewer system.
- (b) Meet all other requirements of these Regulations.

6.3.3 Where said land is subdivided into parcels containing any tracts five acres in size and larger, such tracts shall not be subject to the provisions of these Subdivision Regulations. Said lots shall meet all other requirements of these Regulations.

6.4 Preliminary Subdivision Water Supply and Sewage Disposal Report

The intent of the preliminary report is to assist the sponsor in determining whether to proceed with further development of the land, prior to submitting the information required on the final application.

6.4.1 The Preliminary Report may be combined with the Final Report as one report, at the discretion of the submitting Engineer. By so doing the Engineer accepts that the Health Department may reject or require changes in any part of the proposed subdivision.

6.4.2 Application for approval of the Preliminary Report shall be submitted on forms provided by the Health Department.

6.4.3 An application fee as approved by the Board of Health shall be submitted by the applicant prior to the Health Department processing the Preliminary Report.

6.4.4 The Preliminary Report shall be accompanied by the following:

- a) Vicinity map shown on the plat of the area, locating the subdivision by permanent and prominent landmarks, with related distances giving the name of existing streets, roads and highways and indicating all property adjoining the proposed subdivision which is owned or controlled by the sponsor.
- b) Soil survey as conducted by the United States Department of Agriculture, Soil Conservation Service and recorded in the Soil Survey of Jefferson County, Alabama. A copy of the soils map from the Soil Survey of Jefferson County, Alabama with subject property outlined. The preliminary map shall indicate the boundaries of the various soil classifications and a rating of each kind of soil in terms of its limitations for use as a septic tank absorption field. The terms slight, moderate, and severe shall to be used for rating the soils. For those soils with moderate or severe ratings, major soil factors limiting their use shall be stated.

- c) Boundary plat of the area proposed to be developed which includes legal description and shows appropriate contours. The plat shall have inscribed upon it the approximate soil boundaries and soil classifications as described in the soil survey; any structures, wells, or any other improvements existing in the proposed subdivision at the time of the submission of the Preliminary Report; the identity of all abutters, where available; all adjoining subdivisions; and the location of all surface waters, wells, sinkholes, caves, landfills, open or covered dump areas, springs (especially wet weather) and surface mining operations on the property being subdivided and approximate location of those within 100 feet of the subdivision. Maximum scale shall be 1"= 200'.
- d) A letter from the appropriate public water system supplying the water or from their engineer showing proof that a satisfactory amount of water and water pressure, in accordance with provisions as specified by the Alabama Department of Environmental Management, will be available to this subdivision. When the design of the distribution system for the subdivision is questionable, a letter will be required from the sponsor or his engineer indicating design criteria and necessary calculations used for the design of this system.
- e) A report, when commercial buildings are planned, indicating the types of commercial establishments proposed for the area and the types and amounts of sewage or other liquid wastes which will be generated by each establishment.

6.4.5 Three copies of the information required for the Preliminary Report shall be submitted to the Health Department for review. After receipt and review of a completed application, the Health Department shall notify the engineer and sponsor and shall:

- a) Approve in writing, the subdivision area as proposed; or
- b) Indicate in writing that the proposed subdivision area appears to be adequate for on-site sewage disposal; or
- c) Specify in writing any corrections or additional information necessary to receive preliminary approval; or
- d) Indicate in writing that the proposed subdivision area is not suitable for development under these Regulations. This disapproval shall specify the reasons and shall inform the sponsor of his right to appeal the decision.

6.4.6 If the Preliminary Report discloses possible problem soil areas, the Health Department may require percolation tests and soil inspection pits in the questionable areas to determine if the area is suitable or if lot sizes shall be increased above the minimum requirements. These tests may be observed by the Health Department. The Health Department may participate in field investigation of the property at any stage of development of submittal.

6.4.7 If a subdivision is to be served by a new public water supply, an engineering report shall be submitted with or prior to the submittal of the preliminary application. The engineering report shall cover the source of supply, distribution system and storage.

Approval of the public water supply shall be obtained and a Permit to Construct said public water supply shall be issued by the Alabama Department of Environmental Management. No lots shall be released nor shall any applications for building permits be granted until said public water system has been constructed and approved by the Alabama Department of Environmental Management.

6.4.8 For subdivisions utilizing on-site sewage disposal systems in areas where live sewer is not available, the following information for those areas of the proposed subdivision where the soil has been rated in the "Soil Inventory and Evaluation for Septic Tank Absorption Fields" report as having severe limitations for septic tank absorption fields shall be provided with the preliminary report:

- a) For those areas rated severe due to depth of water, depth to rock, and slope, a specific description of the soils taken from one soil inspection pit per acre (or portion thereof) indicating depth per soil type and depth to water; where rock is encountered, a description of the type of rock and whether it is rippable, permeable, etc., shall be included. Soil inspection pits shall be in compliance with applicable Part 2.5 of these Regulations.
- b) For those areas rated severe due to slope, the percentage of the proposed subdivision area with slopes greater than 25% shall be denoted on the boundary plat.
- c) For those areas rated severe due to periodic flooding, the percentage of the proposed subdivision area that is in the flood prone area shall be denoted on the boundary plat.

6.4.9 For subdivisions proposing to utilize on-site disposal systems in areas where live sewers are available, the following information shall be provided with the preliminary report:

- a) A soil map with the area to be subdivided outlined on the soil map and a "Soil Inventory and Evaluation for Septic Tank Absorption Fields," as prepared by the Soil Conservation Service, U.S. Department of Agriculture.
- b) Certification by the governmental agency having jurisdiction that connection to sanitary sewer will only be authorized for those lots that, on the basis of these Regulations, are deemed unacceptable by the Health Department for an on-site sewage disposal system.
- c) The sponsor may, at his discretion, choose to submit the information required in Section 6.5 of these Regulations. If the sponsor chooses not to submit this additional information, then the Health Department shall, after general review of the Preliminary Report, require that each lot be submitted on an individual basis to determine compliance with these Regulations.

6.4.10 For subdivisions utilizing a public water supply and a public sewage collection and treatment system, a Preliminary Report which consist of the following shall be submitted:

- a) Water approval letter from the local public water authority, and
- b) Sewage disposal approval letter from the local public sewer authority.

6.5 Final Subdivision Water Supply and Sewage Disposal Report

6.5.1 The sponsor of any subdivision proposing to utilize on-site sewage waste disposal systems as a means of sewage disposal shall, after approval of the Preliminary Report and before commencing development or recording the subdivision, submit original and two copies of the Final Report to the Health Department. If the engineer at his discretion submits a combined Preliminary and Final Report, the combined report shall include the original and two copies.

6.5.2 This Final Report shall be on forms supplied by the Health Department and shall include all required information. The Final Report shall be submitted well in advance of the anticipated construction date since any lack of necessary information could cause delay.

6.5.3 A subdivision plat indicating the following information shall be attached to the Final Report:

- a) A dimensioned layout to scale of the proposed lots, streets, and easements. The maximum scale shall be one inch equals fifty feet (1"=50').
- b) Lot and block numbers.
- c) Topography of area showing contour intervals sufficient to show existing or proposed drainage, drains, original and finished grades where changes are anticipated. Contour intervals shall not exceed ten feet. Topographical maps shall be confirmed by on-site inspection by the engineer or surveyor providing the information.
- d) A footprint of the proposed house along with driveway layout.
- e) A primary and secondary disposal area locations shall be indicated on each lot. The soil test shall be located in the primary disposal area. The septic tank and field lines shall be drawn to scale with appropriate linear feet of field lines indicated.
- f) A vicinity map shown on the plat of sufficient detail to allow field location of the property.
- g) An adequate plan showing existing and proposed drainage and easements for surface or subsurface drainage.
- h) Location and results of additional percolation test and/or soil inspection pits required due to unrepresentative results or unusual soil conditions.

- i) All percolation test holes and soil inspection pits shall be identified and located accurately on each lot.
- j) Percolation tests shall be in accordance with Part 2.4 of these Regulations.
- k) Soil inspection pits shall be in accordance with Part 2.5 of these Regulations.
- l) The area of each lot shall be calculated and reported in square feet.

6.6 Standards for Approval of Subdivisions Utilizing On-Site Sewage Disposal Systems

6.6.1 Lot size shall be in compliance with Section 2.9.1a of these Regulations, except that lots not utilizing public water supplies shall have a minimum lot size of one acre.

6.6.2 Subdivision lots shall be in compliance with Part 2.9 of these Regulations.

6.6.3 No subdivision or portion of a subdivision shall be resubdivided after final approval, except as noted in Part 6.3, without being in compliance with these Regulations.

6.6.4 Percolation test shall meet the requirements of Part 2.4 of these Regulations.

6.6.5 Soil inspection pits shall meet the requirements of Part 2.5 of these Regulations.

6.6.6 Where a soil survey report indicates that the soil or soils underlying a proposed subdivision may be unsuitable for ground disposal systems, where nearby existing septic tank systems are malfunctioning due to problems caused by soils of the same classification as those underlying the proposed project, or where test data submitted conflict with other valid sources of information, the Health Department shall reserve the right to withhold approval and further consideration of the proposed subdivision pending submittal of any additional tests requested by the Health Department.

6.6.7 To facilitate the field investigation and evaluation of the proposed subdivision, one of the following field orientation requirements shall be completed before the Final Report is submitted:

- a) Center lines of all roads and streets to be clear-cut and marked. Station locations at a minimum of each 100 feet shall be indicated on plat; or
- b) Field stakes shall be placed and identified on a fifty (50) foot grid system; or
- c) Staking the corners of all lots.

6.6.8 Where proposed water supply is from an existing public water system, the following information shall be submitted:

- a) The correction factor where contours of the subdivision are shown and an assumed datum is used.

- b) Overflow elevation of the water storage tank serving the subdivision.
- c) Size of transmission mains serving the subdivision.
- d) Layout of the distribution system showing the size of all lines within the subdivision. The design shall incorporate provisions for fire protection where possible and, at a minimum, facilities to flush the system.
- e) A letter from the appropriate public water system or their consulting engineer indicating approval of the water distribution system and future acceptance of project when completed.
- f) A letter from the appropriate public water system supplying the water or from their consulting engineer showing proof that a satisfactory amount of water and water pressure, in accordance with provisions as specified by the Alabama Department of Environmental Management, will be available to this subdivision. When the design of the distribution system for the subdivision is questionable, a letter will be required from the sponsor or his engineer indicating design criteria and necessary calculations used for the design of this system.

6.6.9 Where a subdivision is proposed to be served by individual wells or a community well, a preliminary well will be dug prior to approval of the subdivision to determine the quantity and quality of water available. The following information will be furnished to the Health Department; all necessary applications and specifications for construction, log of well, yield of well, chemical and bacteriological analysis, and any other information necessary for approval of well. Any well used as a water supply for a subdivision shall be constructed in compliance with requirements of the Alabama Department of Environmental Management.

6.7 Subdivisions with Live Sanitary Sewers

6.7.1 For subdivisions proposing to utilize a sewerage system with treatment and surface discharge to a receiving stream, a preliminary sketch showing the location and size of the proposed treatment facilities and location and size of the proposed point of discharge shall be submitted with or prior to the submittal of the Preliminary Report in lieu of soils report. No approval shall be given by the Health Department for any subdivision proposing to use a subdivision sewerage system with surface discharge until approval is obtained from the Alabama Department of Environmental Management for the sewage treatment facilities and the discharge point.

6.7.2 When a subdivision is to be served by a sewage collection system and connected to an existing sewerage system or sewage treatment facility designed for it, a letter from the appropriate system assuring proper operation and maintenance shall accompany the preliminary application.

6.7.3 For subdivisions proposing to utilize sanitary sewers, the source of water supply shall be submitted with the preliminary application with information as required in Section 6.6.8.

6.8 Decision of Health Department

6.8.1 After review and field investigation and after receipt of all necessary information, the Health Department shall:

- a) Approve, in writing, the subdivision as proposed; or
- b) Recommend, in writing, any additional information or data needed or any corrections to be made in order to receive approval or advise the sponsor of reasons for withholding action on the subdivision application; or
- c) Indicate, in writing, reasons therefore that the proposed subdivision or portion of proposed subdivision is not suitable for on-site sewage disposal systems; or
- d) In approving a subdivision for on-site sewage disposal, the Health Department may with reason withhold certain lots from approval or place special restrictions of approval on certain lots. The Health Department shall specify, in writing, the reasons for withholding the approval of any lot or lots.

6.9 Requirements After Subdivision Approval is Obtained

6.9.1 After receiving approval of the subdivision, but prior to obtaining a building permit and before constructing or installing the on-site sewage disposal system, the sponsor, builder, developer, or owner of an approved lot or lots shall, on forms provided by the Health Department, make application for "Construction Layout Approval" in compliance with Part 2.1 of these Regulations.

6.9.2 In applying for a construction layout approval, any applicable special conditions or restrictions imposed or required in the final subdivision approval shall be complied with.

6.9.3 Subdivisions proposed for on-site sewage disposal systems located in drainage basins designated by the Health Department as requiring capped sewers will be required to install capped sanitary sewers as a condition of approval.

6.9.4 A copy of the contract covering the installation of the capped sanitary sewers with a map approved by the appropriate county or municipal engineering department showing each lot to be served must be on file with the Health Department prior to the release of any lots for construction.

6.9.5 A copy of the water mains extension contract covering the installation of mains within the subdivision and also a map showing lots to be served by each portion of the contract shall be on file at the Health Department prior to release of any lots for construction.

6.9.6 A copy of the Record Map indicating approved and withheld lots.

6.10 Pit Privies

6.10.1 The use of pit privies shall not be an acceptable means of sewage disposal in a subdivision development.

6.11 Alternate/Experimental Systems

6.11.1 The Health Department may consider alternate/ experimental systems, in accordance with all the requirements of Part 3.11 of these Regulations.

6.12 Flood Prone Areas

6.12.1 All subdivisions proposed to be developed wholly or partially within a flood prone area as defined by these Regulations, except subdivisions to be developed utilizing a sewer system, either public or private, and a public water supply shall, in addition to the other requirements of these Regulations, comply with the following requirements:

- a) No approval shall be given to any such subdivision which lies wholly within a flood prone area.
- b) Where a proposed subdivision is located partially within a flood prone area, that portion of the subdivision not within the flood prone area may be considered for approval. That portion of the proposed subdivision lying within the flood prone area may be subdivided and included as a portion of a lot or lots but shall not be included in computing the usable land area for purposes of lot sizing.

6.13 Revocation of Final Approval

6.13.1 Where a subdivision and the lots located therein have received final approval, such approval may be revoked as to any or all of such lots when:

- a) In the opinion of the Health Department, conditions of any lot or lots have so changed or the actual use of on-site waste disposal systems on other lots in the subdivision has shown that the use of on-site system on such lot or lots would become a menace to the public health.
- b) The subject subdivision is not being developed in accordance with these Regulations or with the conditions of approval of the subject subdivision.
- c) Information submitted for approval was erroneous or was falsified by the sponsor or by his engineer or land surveyor.

6.14 Zoning or Engineering Approval Not Implied

6.14.1 Approval by the Health Department of a subdivision does not imply approval of the subdivision by the County or appropriate municipal government of any zoning or engineering requirements.

6.15 Time Limitation on Approvals

6.15.1 Subdivision approvals shall be considered valid as long as there are no violations of Part 6.13.

Chapter 7

Manufactured Home Park Regulations and Travel Trailer Park Regulations

7.1 Approval Required

7.1.1 No manufactured home park shall be constructed or expanded without plans and specifications being approved by the Health Department and by the local zoning jurisdiction.

7.1.2 Manufactured homes shall not hereafter be parked in any manufactured home park unless plumbing and sanitation facilities have been installed and maintained in conformity with these Regulations.

7.1.3 Where the manufactured home park sewerage cannot be connected to a public sewer for final disposal, the method or means of sewage disposal shall be in accordance with these Regulations.

7.2 Requirements for Approval

7.2.1 No site shall be used for a manufactured home park which does not afford ample space or conditions suitable for an approved water supply and sewage disposal system in accordance with these Regulations.

7.2.2 The sponsor or developer shall employ an Engineer to do the necessary work and recommend the proper and adequate methods of water supply and sewage disposal for the proposed manufactured home park.

7.2.3 When applying for approval to construct the manufactured home park, a fully completed application and construction plan shall be submitted in triplicate. Application forms are provided by the Health Department and all submittals shall be on these forms.

7.2.4 The following information shall be submitted on the construction plan:

- a) Vicinity map showing location of area with reference to surrounding developments and community as a whole; and legal description.
- b) Construction Plan Showing:
 - 1) Dimensioned layout showing proposed lots, streets, and easements.
 - 2) Block and lot number.
 - 3) Topography of area showing contours, drains, original grades and finished grades where changes are anticipated.

- 4) Location and identification of percolation test holes where required.
 - 5) Location and identification of soil inspection pits, where required.
 - 6) Location, size, and type of water main piping to be used in the manufactured home park development.
 - 7) Location, size, and type of sewer lines where applicable. Said plans shall include manhole location and detail, sewer line specifications and a sewer profile.
 - 8) A profile of a "typical" service pad showing the individual mobile home sewer riser and "P" trap and the water service line.
 - 9) Location of proposed septic tank and field lines where applicable and when required by these Regulations. In addition a secondary area for 100% duplication of field lines is required.
 - 10) Location for two off street parking spaces.
 - 11) Any other pertinent or necessary information regarding the water supply and/or sewage disposal systems as required by the Health Department.
- c) Drainage plan showing original or natural drainage plus additional surface or subsurface drainage to be provided and the reason for it.
- d) Name of appropriate water works and the location, size, and pressure at tap point of the water main that is to supply the park, if a public water supply is the proposed source of water for the manufactured home park.
- e) Where a public water supply is not available, all necessary applications and specifications for construction, log of well, yield of well, chemical analysis, and any other information necessary for approval of well or other source as a water supply shall be furnished to the Health Department. Any well used as a water supply for a manufactured home park shall be constructed in compliance with requirements of the Alabama Department of Environment Management.
- f) Signed statement covering the following:
- 1) The distance to nearest public water main and size of that main where a private or community water system is proposed.
 - 2) The distance to nearest public sewer, and whether accessible by gravity. A comparative cost analysis between two or more different methods of sewage disposal shall be given when required by the Health Department, or where there is any possibility of a public sewer being economically available.

7.2.3 Percolation test shall meet the requirements of Part 2.4 of these Regulations.

7.2.4 Soil inspection pits shall meet the requirements of Part 2.5 of these Regulations.

7.3 Water Supply

7.3.1 Adequate supply of water under pressure from a source and of a quality approved by the Health Department and meeting the regulations of the Alabama Department of Environmental Management, shall be piped to each manufactured home lot and to each building where water usage is indicated.

7.3.2 All piping fixtures or devices used in the installation of the water supply system for manufactured home parks or parts thereof, shall conform to the quality and weights of materials required by the Standard Plumbing Code.

7.3.3 All piping fixtures or devices designed and used in the manufactured home park water supply system and service connections shall be installed in conformance with the Standard Plumbing Code.

7.3.4 No cross-connection shall be made or permitted to exist between any public water supply and any private water supply.

7.3.5 No water pipe shall be laid in or on the ground less than 5 feet from any sewer or sewage treatment facility except that a water pipe may cross over and above a collection sewer at right angle with a foot or more vertical distance between the two pipes.

7.3.6 All plumbing connections to be inspected and approved by the local plumbing authority.

7.4 Lot Size Requirements

7.4.1 For manufactured home parks where individual on-site systems are the proposed method of sewage waste disposal, the minimum lot size shall be 15,000 square feet per manufactured home and lots must meet requirements of these Regulations.

7.4.2 For all other manufactured home parks served by a "central sewage treatment system", the appropriate zoning authority's lot size shall govern. Where a central or clustered on-site sewage disposal system is proposed, enough suitable land must be made available to install the on-site system and have area in reserve for 100% duplication of field lines.

7.5 Sewage Disposal

7.5.1 Sewer inlets shall be 4-inch diameter and extend above grade 3 to 6 inches. Each inlet shall be provided with a gas-tight seal when connected to a manufactured home and have a gas-tight seal plug for use when not in service. See Appendix U of these Regulations for typical sewer connection.

- 7.5.2 Unless otherwise provided for in these Regulations, all piping or devices used in the installation of drainage systems for manufactured home parks or parts thereof, shall conform to the quality and weights of materials required by the Standard Plumbing Code.
- 7.5.3 All plumbing fixtures, piping drains, appurtenances, and appliances designed and used in a park drainage system and service connections shall be installed in conformance with the Standard Plumbing Code.
- 7.5.4 For those manufactured home parks utilizing a central sewage treatment system with outfall to a public sewer, the sanitary sewer layout and construction details shall be approved by the appropriate municipal or Jefferson County Engineering Departments and the Health Department. For those parks utilizing central sewage treatment system with on-site disposal the layout and construction details shall be approved by the Health Department.
- 7.5.5 For those manufactured home parks utilizing individual on-site sewage disposal systems, the layout and construction details shall be approved by the Health Department.
- 7.5.6 All manufactured home parks proposed after the effective date of these Regulations utilizing individual on-site sewage disposal systems shall meet the requirements of these Regulations.
- 7.6 Travel Trailer Parks
- 7.6.1 In manufactured home parks providing spaces for travel trailers, auto campers, or other recreational-type units utilizing holding tanks, a sanitary station shall be provided in the ratio of one sanitary station for each 50 spaces or fraction thereof. Such sanitary stations shall be approved by the Health Department, and shall, at the minimum, consist of: a trapped four-inch cast iron or equivalent sewer pipe connected to an approved sewerage system or holding basin, surrounded at the inlet end by a concrete apron sloped to drain, and provided with a suitable hinged cover; and a water outlet with the necessary appurtenances properly protected from backflow or back siphonage, connected to an approved water system to permit wash down of the immediate adjacent areas. A sign shall be erected to indicate water at this location is not for filling water storage tanks.
- 7.6.2 Sanitary stations as required in this section shall not be connected to a septic tank and ground absorption system or other sewage treatment system unless said system is designed specifically and solely for the sanitary station. Sanitary stations which connect directly to the public sewerage system are exempt from the provisions of this paragraph.
- 7.6.3 Holding basins or storage tanks servicing sanitary stations shall be provided with a pumping schedule that is maintained so that no overflow occurs.

7.6.4 Any sewage treatment facility or holding basin constructed or proposed for construction to serve a sanitary station shall be approved by the Health Department, prior to use.

7.7 Service Buildings and Facilities

7.7.1 Manufactured home parks accommodating, providing for, or catering to one or more dependent trailer units, shall provide one or more service buildings which contain the necessary toilet and bath facilities as determined from the following table:

Table 7.7.1

Number of Parking Spaces	Toilets		Urinals	Lavatories		Showers	
	Men	Women	Men	Men	Women	Men	Women
1 - 15	1	1	1	1	1	1	1
16 - 30	1	2	1	2	2	1	1
31 - 45	2	2	1	3	3	1	1
46 - 60	2	3	2	3	3	2	2
61 - 80	3	4	2	4	4	2	2
81 - 100	3	4	2	4	4	3	3

7.7.2 The sewage disposal system and water supply for any such service building shall meet all the requirements of these, or any other pertinent rules and regulations of the Jefferson County Board of Health and the Alabama Department of Environmental Management.

7.7.3 One or more service buildings, in addition to those required in Part 7.7 of these Regulations, shall be provided at such locations as to be reasonably accessible to residents of the park which shall include space and separation for a park manager's office, storage of maintenance equipment and supplies; provided that a manufactured home placed on a lot may be used for this purpose.

7.7.4 Buildings shall not be placed over any collector sewer or sewage disposal facility.

7.8 Electrical Power

The distribution system for electricity within a manufactured home park shall conform to local codes or regulations, and shall be approved by the proper authority; provided that there shall be no electric wire placed on the ground or in any manner whereby an electrical hazard may exist.

7.9 Decision of the Health Department

7.9.1 After review and field investigation and after receipt of all necessary information, the Health Department shall;

- a) Approve, in writing, the manufactured home park as proposed; or

- b) Recommend, in writing, any additional information or data needed or any corrections to be made in order to receive approval or advise the sponsor of reasons for withholding action on the manufactured home park application; or
- c) Indicate, in writing, reasons therefore that the proposed manufactured home park or portion of the proposed manufactured home park is not suitable for on-site sewage disposal systems; or
- d) In approving a manufactured home park for on-site sewage disposal, the Health Department may with reason withhold certain spaces from approval or place special restrictions of approval on certain spaces. The Health Department shall specify, in writing, the reasons for withholding the approval of any space or spaces.

7.10 Alternate/Experimental Systems

7.10.1 The Health Department may consider alternate/experimental systems, in accordance with the requirements of Part 3.11 of these Regulations.

7.11 Operational Permit Required

7.11.1 Upon completion of construction and after receiving construction approval of the Manufactured Home Park, the owner/operator shall make application to the Health Department for an Operational Permit. Application forms shall be provided by the Health Department.

7.11.2 The Operational Permit shall be issued based upon certification by an Engineer that the Manufactured Home Park is in compliance with the construction plans as approved by the Health Department.

7.11.3 The permit shall:

- (a) Be issued upon payment of the appropriate fees to the Health Department.
- (b) Be non-transferable to another person.
- (c) Be posted in a conspicuous and protected place on the premises.
- (d) Expire on an annual basis twelve (12) months from the effective date of issuance or upon transfer of ownership.
- (e) Be renewed during the sixty (60) days prior to the expiration date each year.
- (f) Be specific as to the number of units approved for the park.

7.11.4 The issuance and/or renewal of an operational permit for a Manufactured Home Park shall be conditioned upon compliance with these regulations as determined by periodic inspections of the site and premises.

7.11.5 No person shall operate a Manufactured Home Park without having applied for and obtained an initial constructional approval, in the case of a new facility, and/or an operational permit or permit renewal issued by the Health Department based upon compliance with these regulations.

7.12 Maintenance and Operation

7.12.1 Each Manufactured Home Park shall be under the supervision of a manager as designated on the application form, who shall be reasonably available at all times. Should there be a change of manager during the operational year, the Health Department shall be notified in writing within ten (10) days of such change.

7.12.2 Each Manufactured Home Park shall be equipped and arranged so that all areas are accessible for maintenance and removal of all garbage, rubbish, and waste. Cleaning and maintenance of common use areas such as road, street, alleys, public park areas, pool areas, and un-rented or vacant mobile home spaces shall be the responsibility of the owner or permit holder.

7.12.3 Facilities and/or receptacles shall be provided at each occupied manufactured home space for the accumulation and storage of household garbage and trash which is watertight, impervious, and suitable to protect the contents from access by insects, rodents, and other animals. These requirements shall not apply to those Manufactured Home Parks where an approved centralized location for the storage and collection of garbage is provided and serviced through commercial contract.

7.12.4 No standing water shall be allowed to pool in the Manufactured Home Park and the premises shall be kept free of refuse and debris which may provide harborage for rodents, or contribute to mosquito or fly propagation. When such conditions are found to exist in the common use areas of the Park, the owner or operator shall take action to exterminate pests or eliminate the potential propagation sites. Responsibility for rodent and insect control on individually owned or leased premises within the Manufactured Home Park shall be the responsibility of the lessee, owner, or other person in control of said premises.

Chapter 8

Certificates of Competency

8.1 Certificates of Competency Required

- 8.1.1 No person shall engage in the business of installing, repairing, cleaning, or maintaining on-site sewage disposal systems without having applied for and obtained a Certificate of Competency from the Health Department.
- 8.1.2 Any Certificate of Competency issued by the Health Department shall not be transferable to another person or upon sale or change of ownership of the firm or corporation.
- 8.1.3 The Health Department may suspend, revoke, or deny any Certificate of Competency as provided in Section 12 of Act No. 659, Alabama Legislature Regular Session 1978.
- 8.1.4 Holder of Certificate of Competency is responsible for any work performed under that Certificate of Competency.

8.2 Requirements for Certificate of Competency

- 8.2.1 Any person wishing to obtain a Certificate of Competency shall truthfully and to the best of his ability complete the application form supplied by the Health Department. Upon completion, this form shall be submitted to the Health Department for review and shall include background information on the applicant and an affirmation by the applicant to abide by all rules and regulations governing on-site sewage disposal in Jefferson County, Alabama. Furthermore the applicant must show evidence that said applicant has as a minimum one year of experience installing or maintaining on-site sewage disposal systems.
- 8.2.2 Upon review and approval of an application for a Certificate of Competency, the applicant shall successfully complete an examination administered by the Health Department of current rules and regulations governing on-site sewage disposal in Jefferson County, Alabama. Each person engaged in the business of installing, repairing, cleaning, or maintaining on-site sewage disposal systems shall have at least one owner of the business that has successfully completed the examination.
- 8.2.3 Payment of all applicable fees shall be made prior to the issuance of a Certificate of Competency to any person.
- 8.2.4 Any person wishing to obtain a Certificate of Competency shall file with the Health Department a Surety Bond in an amount not less than Five Thousand Dollars (\$5000.00). The applicant shall be principal on said bond and the Health Department shall be the obligee. The bond must be kept in force for as long as the certificate holder holds a valid Certificate of Competency. The Board or any party injured by a

holder of a Certificate of Competency may bring an action on the bond of any such holder.

8.3 Certificate of Competency Annual Renewal

8.3.1 Certificates of Competency are valid from January 1 through December 31 of each year.

8.3.2 Annual renewal requires a completed application, payment of annual fee (as set by the Board), and approval of the application by the Health Department.

8.3.3 Failure to file a completed application and pay the renewal fee prior to December 31 of each year will be cause for the renewal of the Certification of Competency to be denied. Holder must reapply for a new Certificate of Competency as in Part 8.2 of these regulations.

APPENDIX A

MINIMUM GUIDELINES SEWAGE VOLUME BY TYPE OF ESTABLISHMENT

Type of Establishment	Sewage Flow Gallons/person/day (Unless otherwise noted)
<u>Residential</u>	
Hotels, motels and rooming houses	
(per resident)	50
(per employee)	11
Private dwellings, multifamily dwelling, apartment	
(per unit)	
(two bedrooms or less)	300
(three bedrooms or more,gal/bedroom/day).....	150
<u>Commercial</u>	
Airline catering	
(per meal served)	3
Airports	
(per passenger-not including food).....	5
Airports	
(per employee)	10
Auto Service Station	
(per restroom).....	630
Bar	
(per customer)	6
(per employee)	14
Barber Shop	
(per chair)	80
Beauty Shop	
(per station)	300
Boarding Home	
(per resident)	75
Bus Service Area	
- not including food	5
Country Clubs	
- not including food (per member).....	30
Day Workers at Offices	
.....	20
Domiciliary	
(per bedspace)	125
Drive-in Theater	
(per space - not including food).....	10
Factories and Plants	
(per shift - no industrial waster)	20
(per shift - with showers)	30
Laundries, self-service	
(per washer)	580
Movie Theaters	
(per seat - not including food).....	5
Restaurants	
(toilet and kitchen waste per patron)	10
(additional for bars and cocktail lounges).....	2
(kitchen waste per meal served)	3
(with paper service per meal served)	1.5
(fast food - check water use of similar facilities)	
Shopping Center	
(per parking space)	1.5
(per employee)	11
Stores	
(per public toilet).....	528
Work or construction camps	
.....	50

Institutional

Churches	(per auditorium seat - not including food).....	5
Hospitals	(per bed space)	250
Institutions other than hospitals	(per bed space).....	125
Schools	.....	15
	(with boarding).....	75
	(with cafeteria).....	20
	(with cafeteria, gym, and showers).....	25

Recreational

Camps	(day - no meals served).....	10
	(resort).....	125
	(night and day - with limited plumbing).....	50
	(campground - individual hookups - per space)	100
	(campground - no individual hookups - per space)	50
Fairground and Parks, Picnic	(with bathhouses, showers, and flush toilets).....	15
	(toilet waste only)	5
Marina	(toilet waste only - per boat slip).....	10
	(with bathhouse - per boat slip).....	30
Swimming Pools and Bathhouses	.....	10

Minimum Requirements - Actual use may vary, other water-use documentation may be submitted.

APPENDIX B

STANDARD PROCEDURE FOR PERFORMING SOIL PERCOLATION TESTS

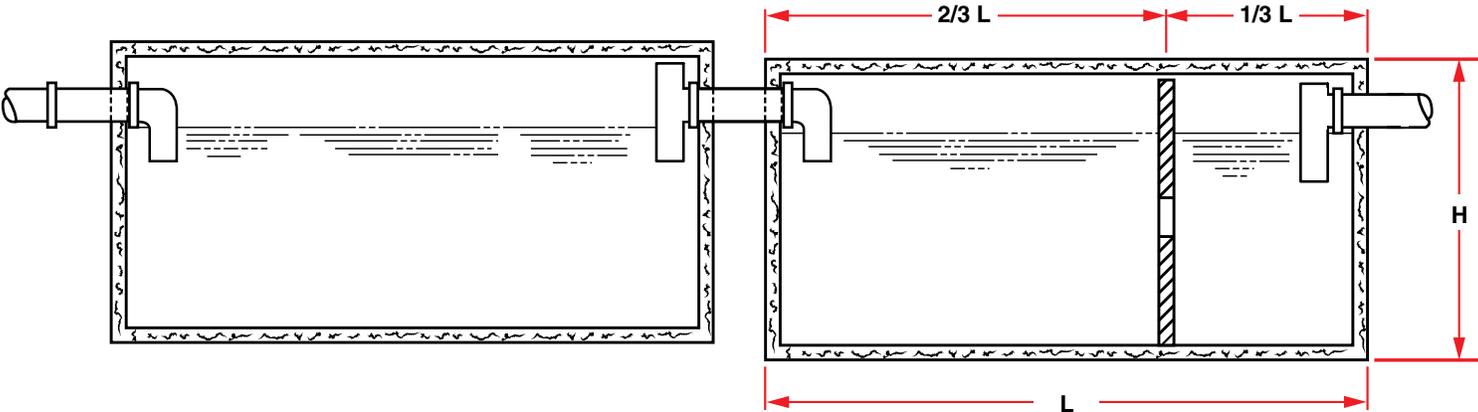
PERCOLATION TEST PROCEDURE

Procedure for Performing Soil Percolation Tests - Soil percolation tests shall be performed in accordance with the following procedures:

- (a) Using soil data from the soil inspection pit, dig or bore the percolation test hole to the depth of the proposed effluent distribution trenches, not less than 24 inches or greater than 36 inches* (not less than 12 or greater than 24 inches for shallow placement) with a diameter of eight to 12 inches. In order to remove any glazed or burnished spots on the walls of the test hole, the walls shall be scratched or made rough so as to provide a natural soil interface for absorption. All loose materials shall be removed from the hole. A two-inch layer of coarse sand or fine gravel shall be added to protect the bottom from scouring and sediment.
 - (b) Percolation test holes shall be filled with clear water to a minimum depth of 12 inches over the sand or gravel. Water shall be added to the test hole as often as necessary to maintain the 12 inch depth for a **minimum of four hours**, in order to saturate the surrounding soil.
 - (c) Percolation test measurements shall be made no later than eight hours following the saturation process. The drop of the water surface at 30 minute intervals over a **four-hour period** shall be measured from a fixed reference point outside the test hole.
 - (d) After the saturation process, the test shall be performed by adjusting the water level to a depth of six inches over the sand or gravel. From a fixed reference point outside the test hole, the depth to water shall be measured at 30-minute intervals for a period of not less than four hours. Water shall be added as necessary to maintain the water surface above the sand or gravel. The percolation rate will be determined by the drop of water surface which occurs in the last 30-minute interval, provided that the absorption rate has stabilized. If there is an appreciable difference in the last two readings of the four-hour interval, the test will continue to be made at additional 30-minute intervals until the rate stabilizes. The rate shall be considered to be stabilized when the last two readings are approximately the same.
- *Any other depth must receive approval from the Jefferson County Department of Health prior to testing.
- (e) For soils which absorb the first six inches of water in less than 30 minutes following saturation, measurements on the water surface shall be made at ten-minute intervals over a period of one hour. The drop of water surface which occurs in the final ten minutes shall be used to compute the percolation rate.
 - (f) The percolation rate shall be reported as the number of minutes required for the water surface to drop one inch in the test hole after the rate is stabilized.

APPENDIX C

CONNECTION OF TWO SEPTIC TANKS IN SERIES



APPENDIX D

MINIMUM CAPACITIES FOR SEPTIC TANKS FOR RESIDENTIAL DWELLINGS

Number of Bedrooms	Minimum Liquid Capacity (Gallons*)	
	With Garbage Grinder	Without Garbage Grinder
≥3	2000	1000
4	2500	1500
additional bedrooms	250 each	200 each

* Nothing in these requirements is intended to prevent the use of two (2) prefabricated septic tanks in series to achieve these capacity requirements.

APPENDIX E

SIZING THE SOIL DISPOSAL FIELD

Type	Soil Texture By Feel Analysis*	Anticipated Soil Absorption Rate Range (min/in)	Lineal Feet of Effluent Disposal Lines (2) (3) (minimum trench width = 18")	
			Commercial ft/gal	Residential ft/bedroom
1	Sand Loamy Sand Sandy Loam	5 to 29	1.0	125
2	Sandy Clay Loam Loam Silt Loam Silt	30 to 49	1.5	150
3	Sandy Clay Clay Loam Silty Clay Loam Silty Clay	50 to 60	1.8	175
4	Clay	>60 (1)		

(1) Over 60 min/in not generally considered suitable for conventional subsurface sewage disposal, see Sec. 2.8.3 of these Regulations for alternate system requirements.

(2) For separate washing machine effluent disposal line see Sec. 3.6.1 of these Regulations.

(3) In no case shall the total length of the effluent disposal lines for a residential dwelling be less than 300 feet.

*See Appendix P-1 of these Regulations.

APPENDIX F-1A

SERIAL DISTRIBUTION SYSTEM

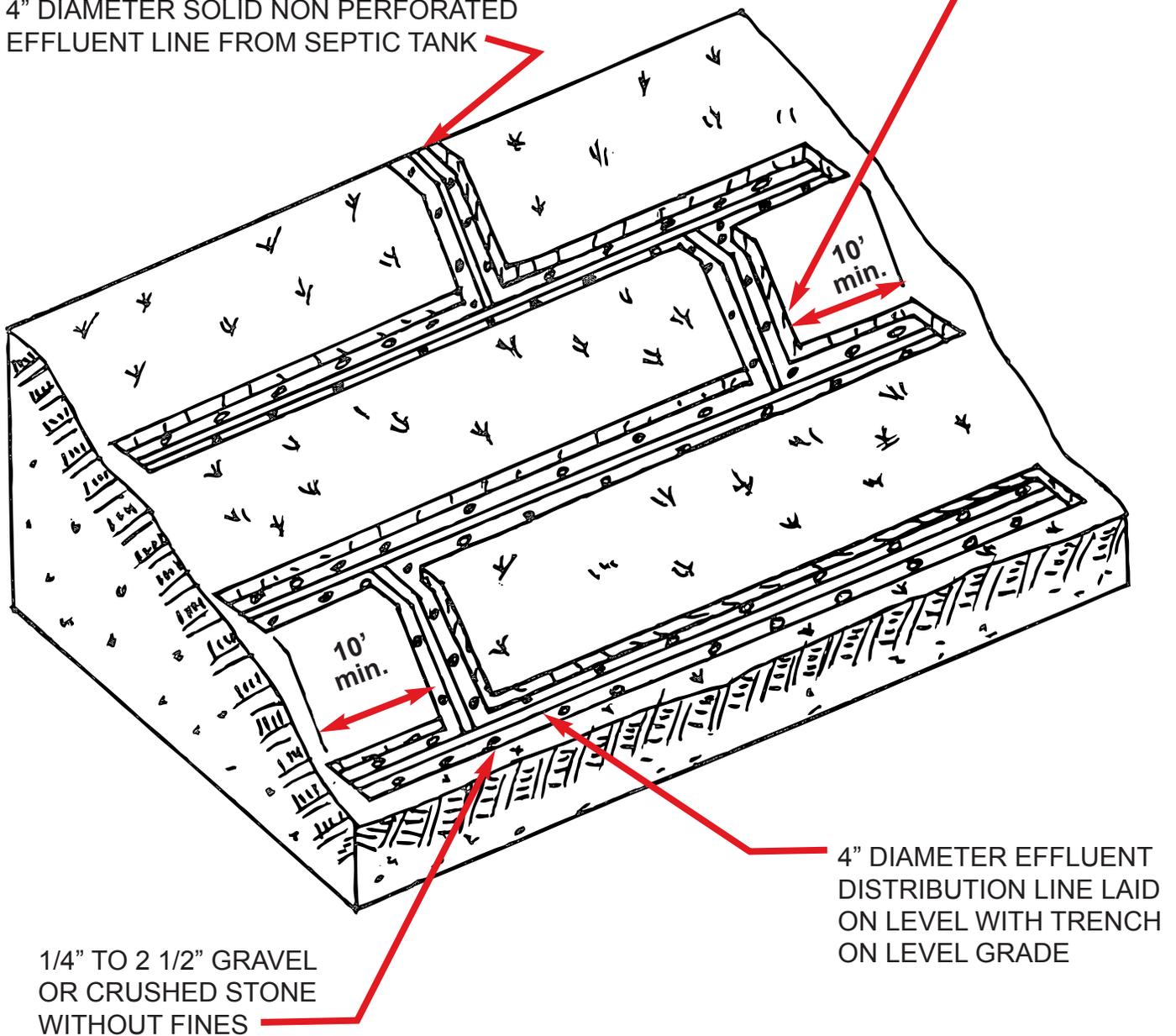
**LINE 100 FEET OR LESS IN LENGTH
MINIMUM OF ONE CROSS-OVER REQUIRED**

NOT TO SCALE

NOTE: SLOPE 6" OR MORE FROM SEPTIC TANK TO DISPOSAL AREA

4" DIAMETER SOLID NON PERFORATED EFFLUENT LINE FROM SEPTIC TANK

FOR CROSS-OVER DETAIL FOR SERIAL DISTRIBUTION FOR SLOPING GROUND SEE APPENDIX F-2



APPENDIX F-1B

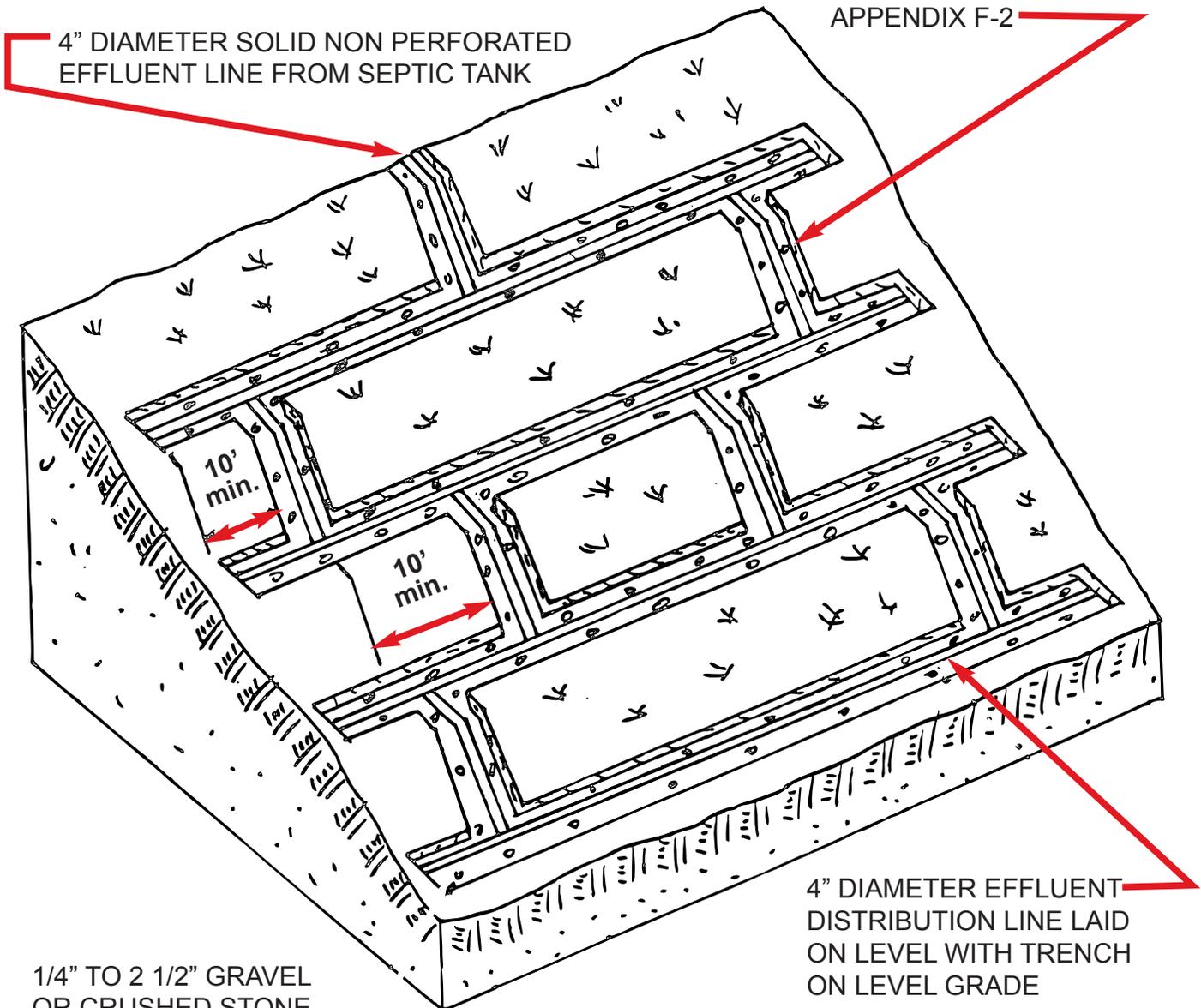
SERIAL DISTRIBUTION SYSTEM

LINE OVER 100 FEET IN LENGTH
TWO CROSS-OVERS REQUIRED

NOT TO SCALE

NOTE: SLOPE 6" OR MORE
FROM SEPTIC TANK TO
DISPOSAL AREA

FOR CROSS-OVER DETAIL
FOR SERIAL DISTRIBUTION
FOR SLOPING GROUND SEE
APPENDIX F-2



4" DIAMETER SOLID NON PERFORATED
EFFLUENT LINE FROM SEPTIC TANK

10' min.

10' min.

4" DIAMETER EFFLUENT
DISTRIBUTION LINE LAID
ON LEVEL WITH TRENCH
ON LEVEL GRADE

1/4" TO 2 1/2" GRAVEL
OR CRUSHED STONE
WITHOUT FINES

NOTE: LINES LESS THAN 40 FEET LONG
IN THE DISPOSAL SYSTEM WILL
REQUIRE ONLY ONE CROSS-OVER
TO AND FROM FIELD LINES

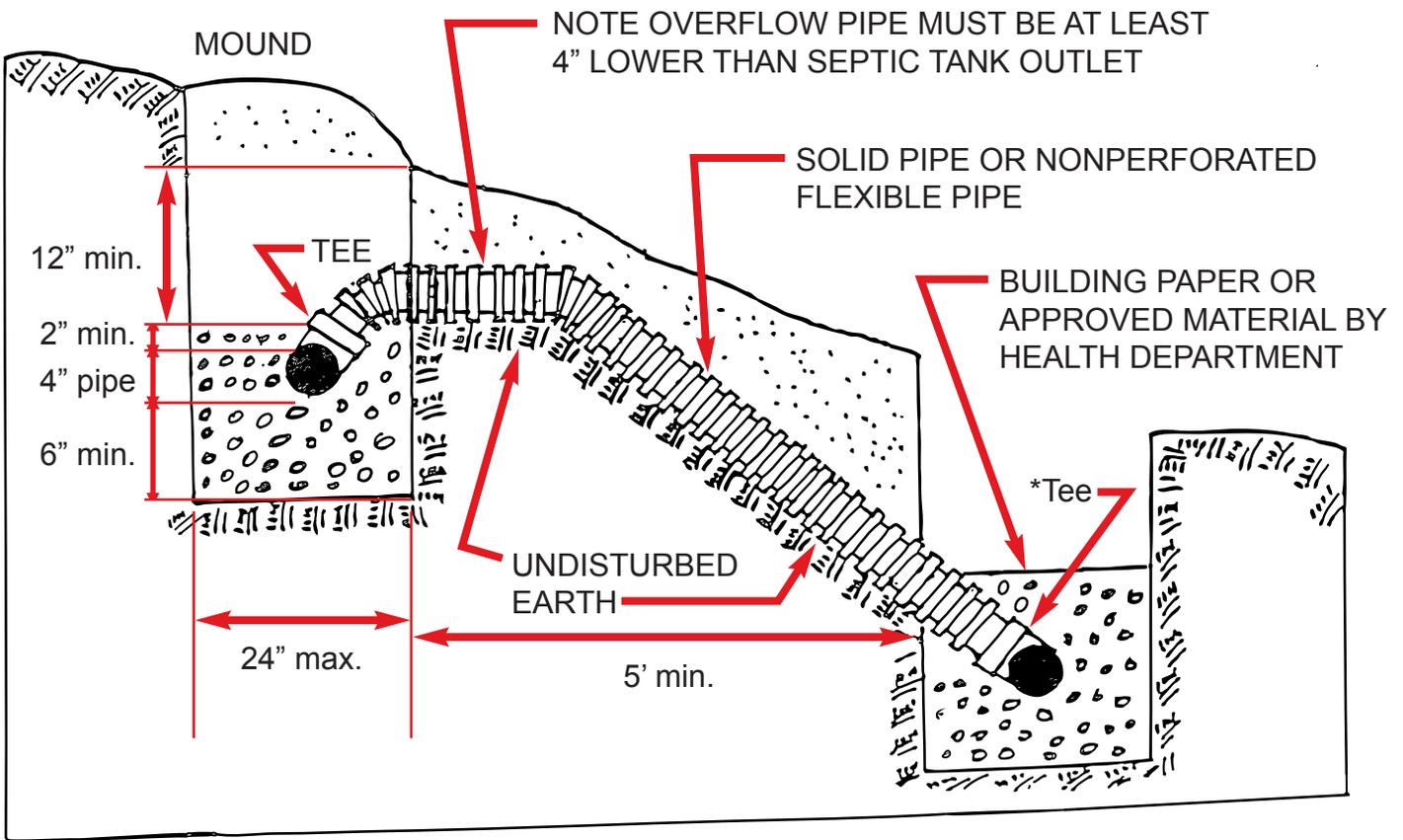
R-001910

APPENDIX F-2

CROSSOVER DETAIL

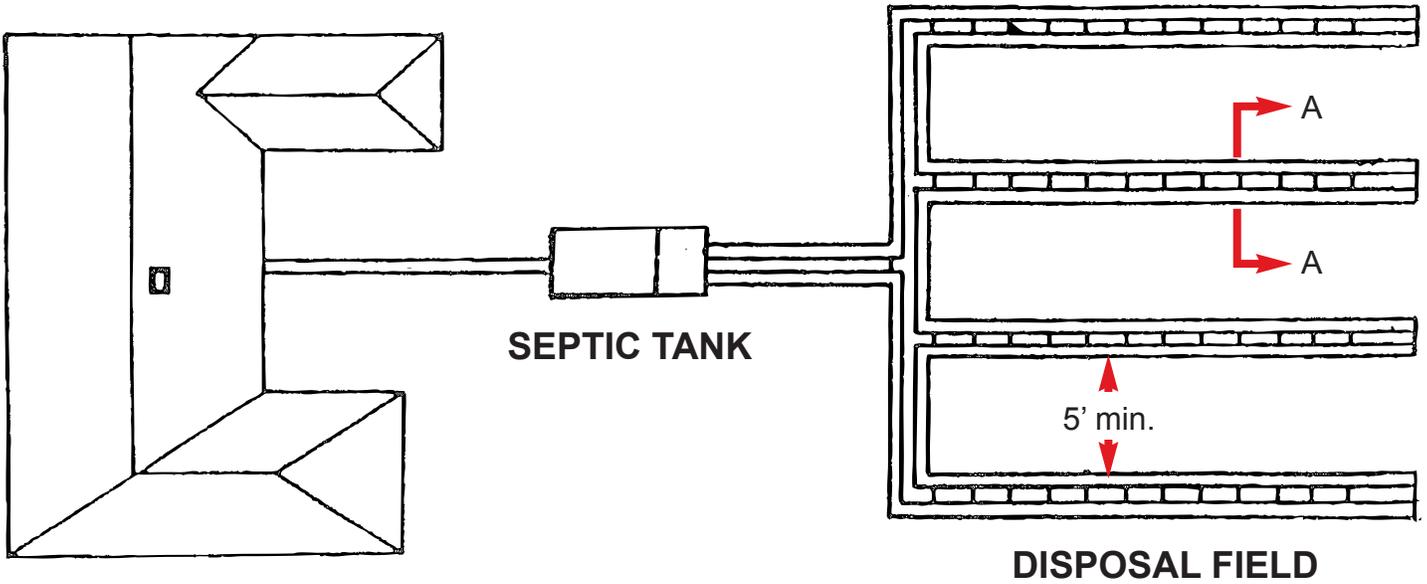
ABSORPTION FIELD SERIAL DISTRIBUTION FOR SLOPING GROUND

LINES 100 FT. OR LESS IN LENGTH SEE APPENDIX F-1A
LINES OVER 100 FT. IN LENGTH SEE APPENDIX F-1B

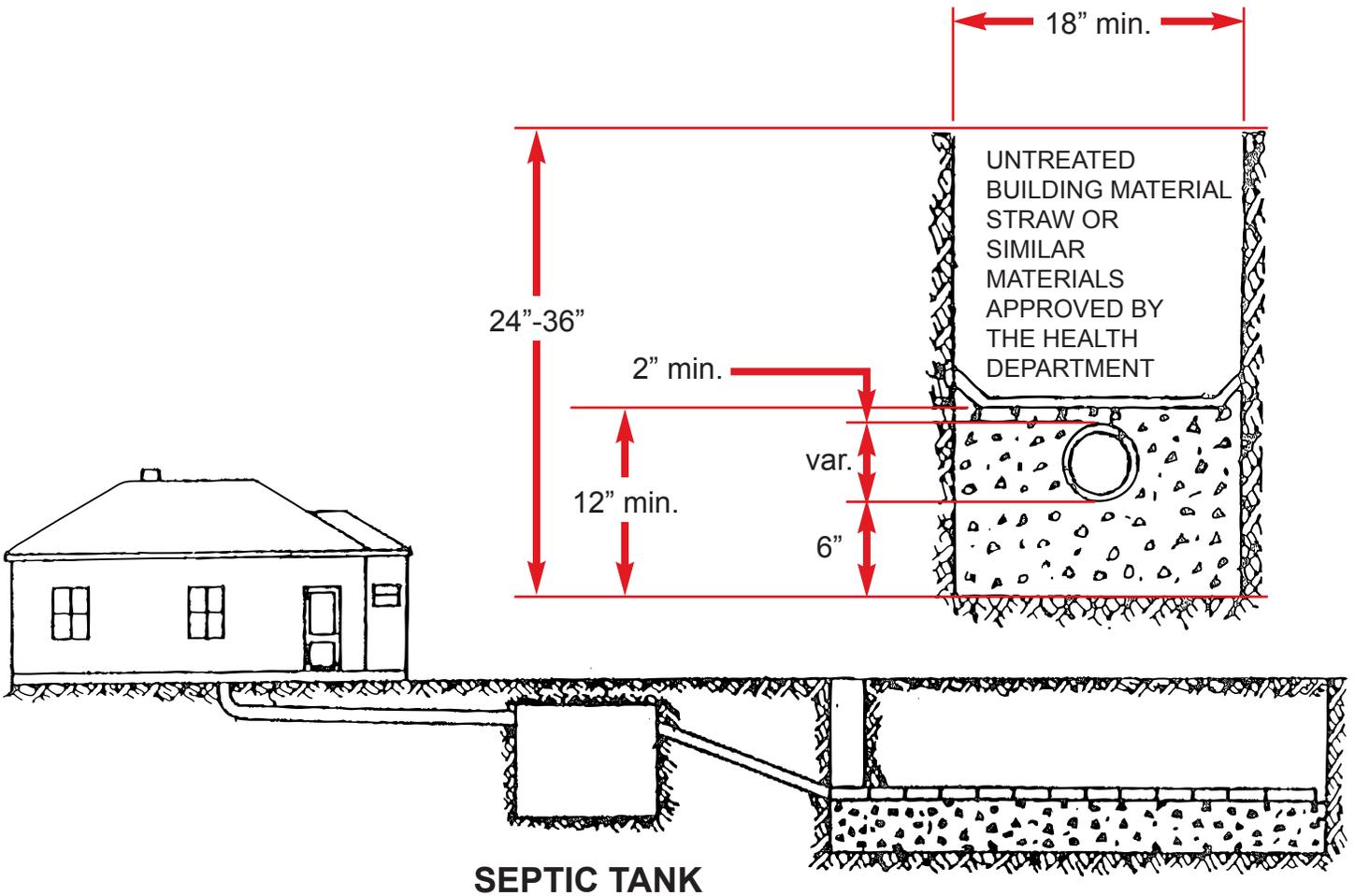


*MINIMUM REQUIRED FITTINGS

**APPENDIX G
SECTION A-A
DETAIL OF CONSTRUCTION LAYOUT**



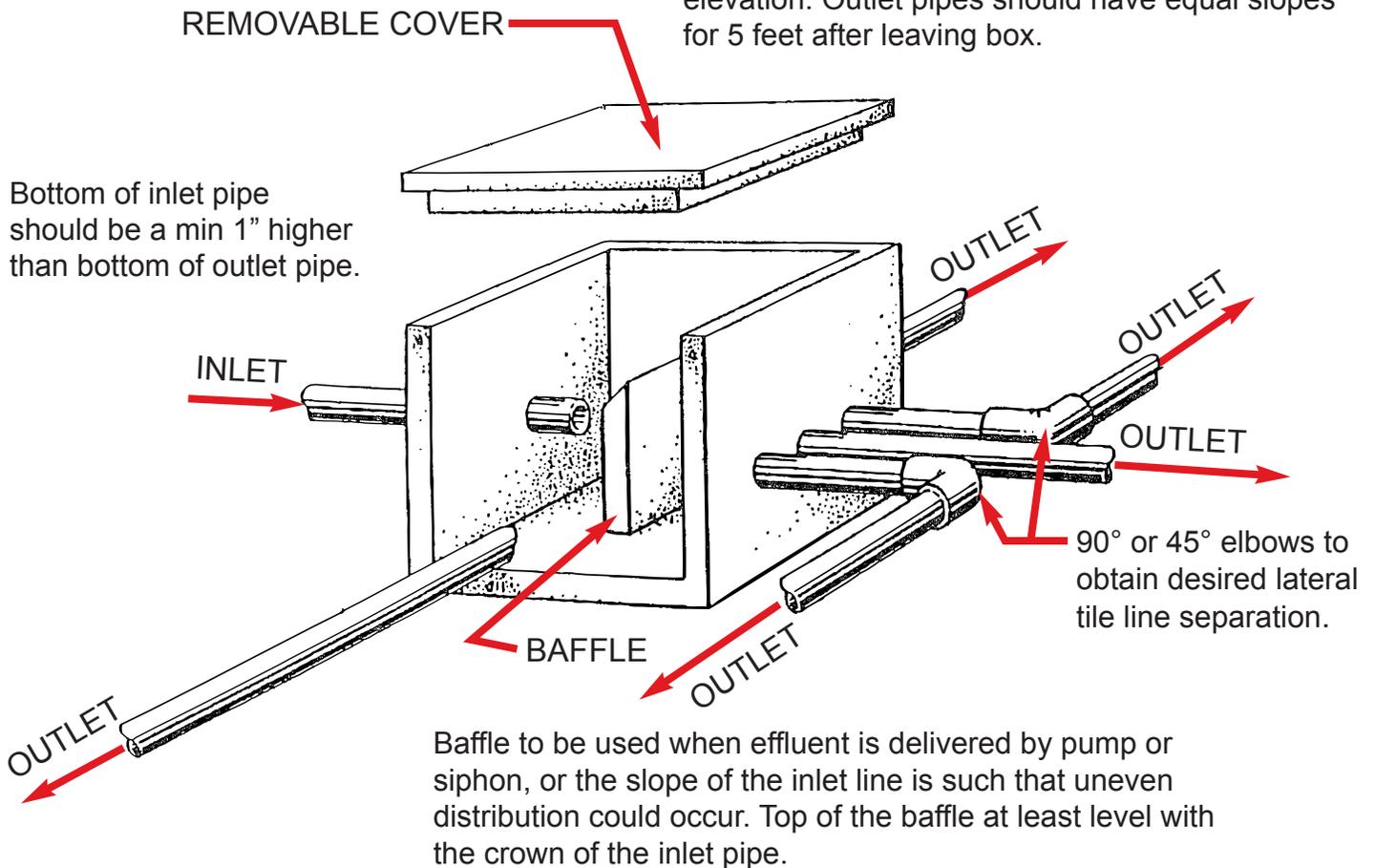
TYPICAL PLAN



APPENDIX H

TYPICAL DISTRIBUTION BOX

Each tile field lateral shall be connected separately and not subdivided. Inverts shall be at the same elevation. Outlet pipes should have equal slopes for 5 feet after leaving box.



APPENDIX I-1

PORTABLE TOILET REQUIREMENTS FOR CONSTRUCTION SITES

MINIMUM OF TOILET FACILITIES

Number of Employees	Minimum Number of Toilet Facilities If Serviced Once/Week
1-10	1
11-20	2
21-30	3
31-40	4
Over 40	1 additional facility for each 10 additional employees

Number of Employees	Minimum Number of Toilet Facilities If Serviced More Than Once/Week
1-15	1
16-35	2
36-55	3
56-75	4
76-95	5
Over 95	1 additional facility for each 20 additional employees

APPENDIX I-2

PORTABLE TOILET GUIDELINES FOR SPECIAL EVENTS

GENTLEMEN
MAX. LINE OF QUEUE LENGTH/UNIT: 10 PEOPLE
AVG. TIME BETWEEN USE: 2.0 (HRS)

AVERAGE TIME AT EVENT (HRS)

PEAK CROWD	1	2	3	4	5	6	7	8	9	10
250:	2	2	2	2	2	3	3	3	3	3
500:	2	3	4	4	4	4	4	4	4	4
1000:	4	5	6	7	7	8	8	8	8	8
2000:	6	10	12	13	14	14	14	15	15	15
3000:	9	14	17	19	20	21	21	21	22	22
4000:	12	19	23	25	28	28	28	30	30	30
5000:	15	23	28	32	34	36	36	36	36	36
6000:	17	28	34	38	40	42	42	42	44	44
7000:	20	32	40	44	46	48	50	50	50	50
8000:	23	38	46	50	54	57	57	57	57	57
10000:	30	46	57	63	66	69	69	72	72	72
12500:	36	57	72	80	84	88	88	88	88	92
15000:	44	69	84	96	100	105	105	105	110	110
17500:	50	80	100	110	115	120	125	125	125	125
20000:	57	92	115	125	132	138	138	144	144	144
25000:	72	115	144	154	168	175	175	175	176	184
30000:	88	138	168	192	200	207	207	216	216	216
40000:	115	184	225	250	264	275	276	288	288	288
50000:	144	225	288	312	336	350	350	350	360	360
75000:	216	350	425	475	500	525	525	525	528	550
100000:	288	450	575	625	675	675	700	700	725	725

* "Sanitarian & Health Official Guide", University of Missouri-St. Louis

APPENDIX I-3

PORTABLE TOILET GUIDELINES FOR SPECIAL EVENTS

LADIES
MAX. LINE OF QUEUE LENGTH/UNIT: 10 PEOPLE
AVG. TIME BETWEEN USE: 2.0 (HRS)

AVERAGE TIME AT EVENT (HRS)

PEAK CROWD	1	2	3	4	5	6	7	8	9	10
250:	2	2	3	3	3	3	3	3	3	3
500:	3	4	5	5	5	5	5	5	5	6
1000:	5	7	8	9	9	10	10	10	10	10
2000:	8	13	15	17	18	19	19	19	19	19
3000:	12	19	23	25	28	28	28	30	30	30
4000:	16	24	30	34	36	38	38	38	38	38
5000:	19	32	38	42	44	46	46	48	48	48
6000:	23	38	46	50	54	57	57	57	57	57
7000:	28	42	54	60	63	63	66	66	66	66
8000:	32	48	60	66	72	72	75	75	75	75
10000:	38	60	75	84	88	92	92	96	96	96
12500:	48	75	92	105	110	115	115	120	120	120
15000:	57	92	115	125	132	138	138	144	144	144
17500:	66	105	132	144	154	161	161	168	168	168
20000:	75	120	150	168	175	184	184	192	192	192
25000:	96	150	184	207	225	225	230	240	240	240
30000:	115	184	225	250	264	275	275	288	288	288
40000:	150	240	300	336	350	360	375	375	375	375
50000:	192	300	375	425	450	450	475	475	475	475
75000:	288	450	550	625	650	675	700	700	725	725
100000:	375	600	750	825	875	900	925	950	950	950

* "Sanitarian & Health Official Guide", University of Missouri-St. Louis

APPENDIX J

ORGANIC LOADING RATES BY TYPE OF ESTABLISHMENT

Type of Establishment	Organic Loading Rates Pounds BOD ₅ Person Per Day (Unless Otherwise Noted)
-----------------------	---

Residential

Hotels, motels, and rooming houses	0.15
Private dwellings, multifamily dwelling, or apartments (per unit) 2 bedrooms or less	0.68*
(3 bedrooms or more) (per bedroom)	0.34*

*NOTE: If garbage grinders are installed, multiply organic loading rate by 1.5.

Commercial

Airports (per passenger-not including food)	0.02
Airports (per employee)	0.05
Bus service areas not including food	0.02
Day Workers at offices	0.05
Drive-in theaters (not including food-per space per day)	0.02
Factories and plants (exclusive of industrial wastes) per shift	0.05
Movie Theaters (per auditorium set-not including food)	0.02
Restaurants (employees)	0.05
Restaurants (kitchen wastes per meal served)	0.03**
Work or construction camps	0.15

**NOTE: If the restaurant has a garbage grinder, add 0.03 pounds per meal.

Institutional

Churches (per auditorium seat-not including food)	0.02
Hospitals (staff and patients)	0.30
Schools, boarding	0.17
Schools	0.04
Schools (with cafeteria)	0.05***
Schools (with cafeteria, gym and showers)	0.06***

***NOTE: If cafeteria has garbage grinder, add 0.01 pounds per person.

Recreational

Camps, day (no meals served)	0.05
Camps, resort	0.17
Camps, (night and day) with limited plumbing	0.15
Camps, (tourist) trailer or campground with individual sewer hookups (per space)	0.17
Camps, (tourist) trailer or campground (per space)	0.15
Fairground and parks, picnic-with bathhouses, showers, and flush toilets	0.05
Fairground and parks, picnic (toilet wastes only)	0.02
Swimming pool and bathhouses	0.03

R-001917

APPENDIX K

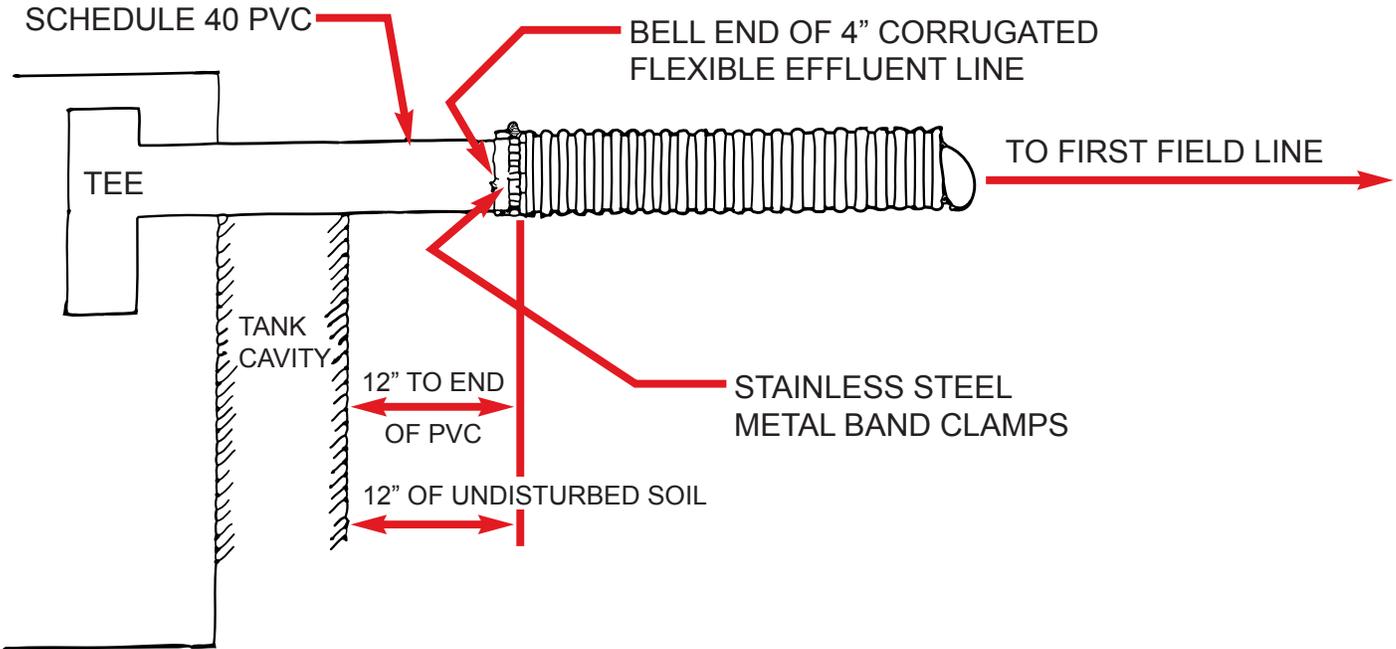
MINIMUM REQUIREMENTS FOR GRAVEL-LESS PIPE

Trench bottom - minimum width	18"
Trench bottom - maximum width	24"
Trench bottom - minimum depth	18"
Trench bottom - maximum depth	36"
Effluent distribution line - minimum diameter	8"
Effluent distribution line - maximum diameter	10"

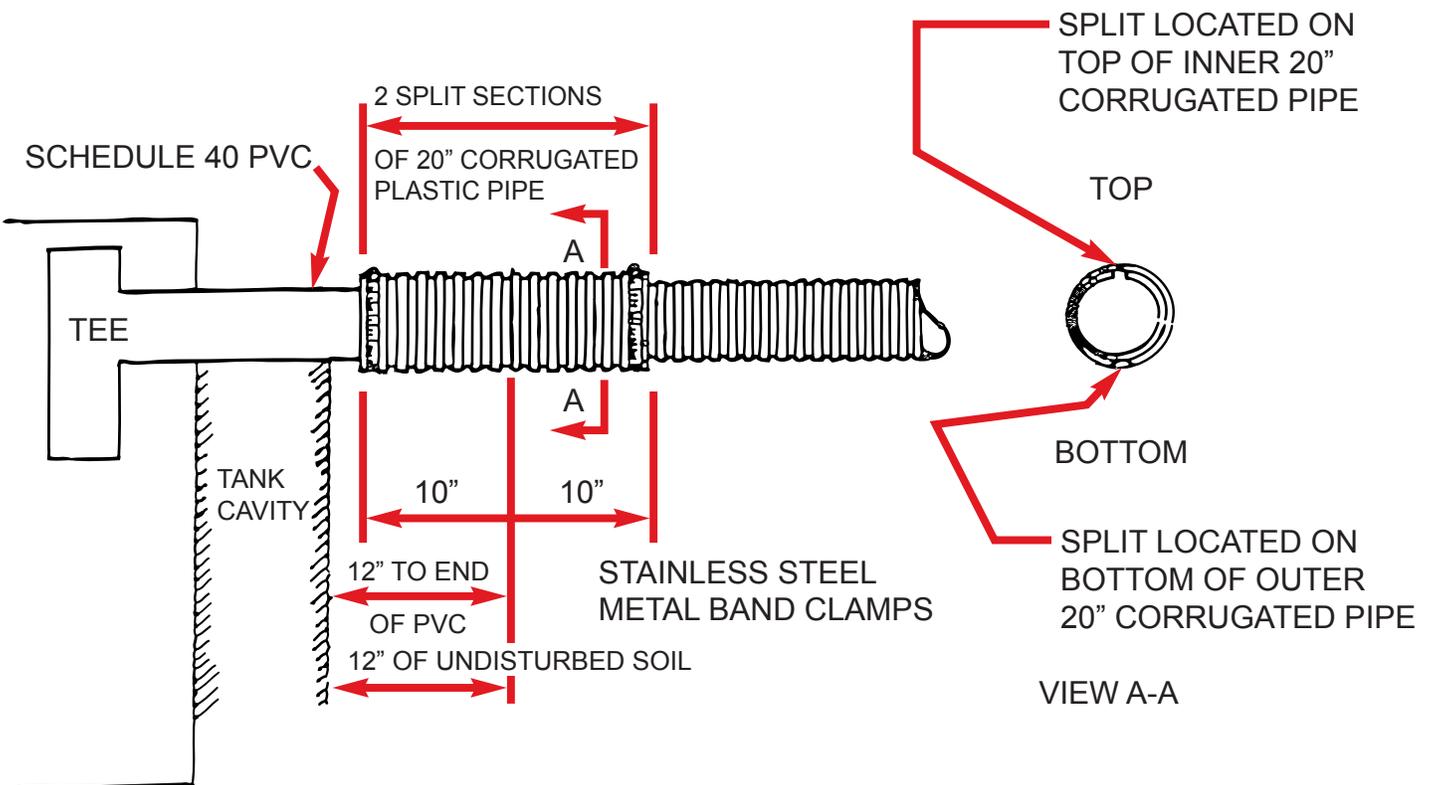
Large diameter effluent distribution lines shall be manufactured in accordance with the following specifications:

- 1) The 8" and 10" I.D. tubing shall be corrugated polyethylene, or similar strength and durability material, meeting the requirements of ASTM F667, Standard Specification for 8" and 10" corrugated polyethylene tubing with the following exceptions:
 - a) Perforations shall be clearly cut and uniformly spaced along the length of the tubing as follows: a minimum of two (2) rows of three-eighths inch (3/8") to one-half (1/2") diameter holes located 115° - 125° apart along the bottom half of the tubing (each 57.7° - 62.5° up from the bottom center line). Any additional rows of perforations shall be equally located, about the bottom center line, above the rows of perforations listed above. These perforations should be staggered so that there is only one (1) hole in each corrugation.
 - b) The tubing shall be marked with a visible top location stripe.
- 2) Filter Wrap - All large (8 - 10") diameter effluent distribution lines shall be encased, at the point of manufacture, with a spun bonded nylon, or other material of similar strength and durability filter wrap.
- 3) Endcaps, connectors, and fittings manufactured by the maker of the gravel-less pipe to be used for all installations of the gravel-less pipe to be used for all installations of the gravel-less pipe.
- 4) The Health Department reserves the right to limit the use of the gravel-less pipe in soil Type 3 and Type 4, see Appendix P of these Regulations.

APPENDIX L



BEFORE 20" SPLIT SECTION ADDED



AFTER 20" SPLIT SECTION ADDED

APPENDIX N

**JEFFERSON COUNTY DEPARTMENT OF HEALTH
WAIVER OF
PERMIT TO REPAIR CONVENTIONAL ON-SITE SEWAGE DISPOSAL SYSTEM**

I, _____, owner of property located at
name (print legibly)

_____, do hereby request no permit
Street City Zip

to repair be issued by the Health Department for the following repairs associated with my currently malfunctioning on-site sewage disposal system:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

I understand that any and all repairs shall conform to the Regulations and shall be inspected and/or permitted by the Health Department upon completion.

I do hereby authorize _____ to make the above repairs.
(Company)

Signed: _____
(Property Owner)

Phone: H. _____ Wk. _____

Date: _____

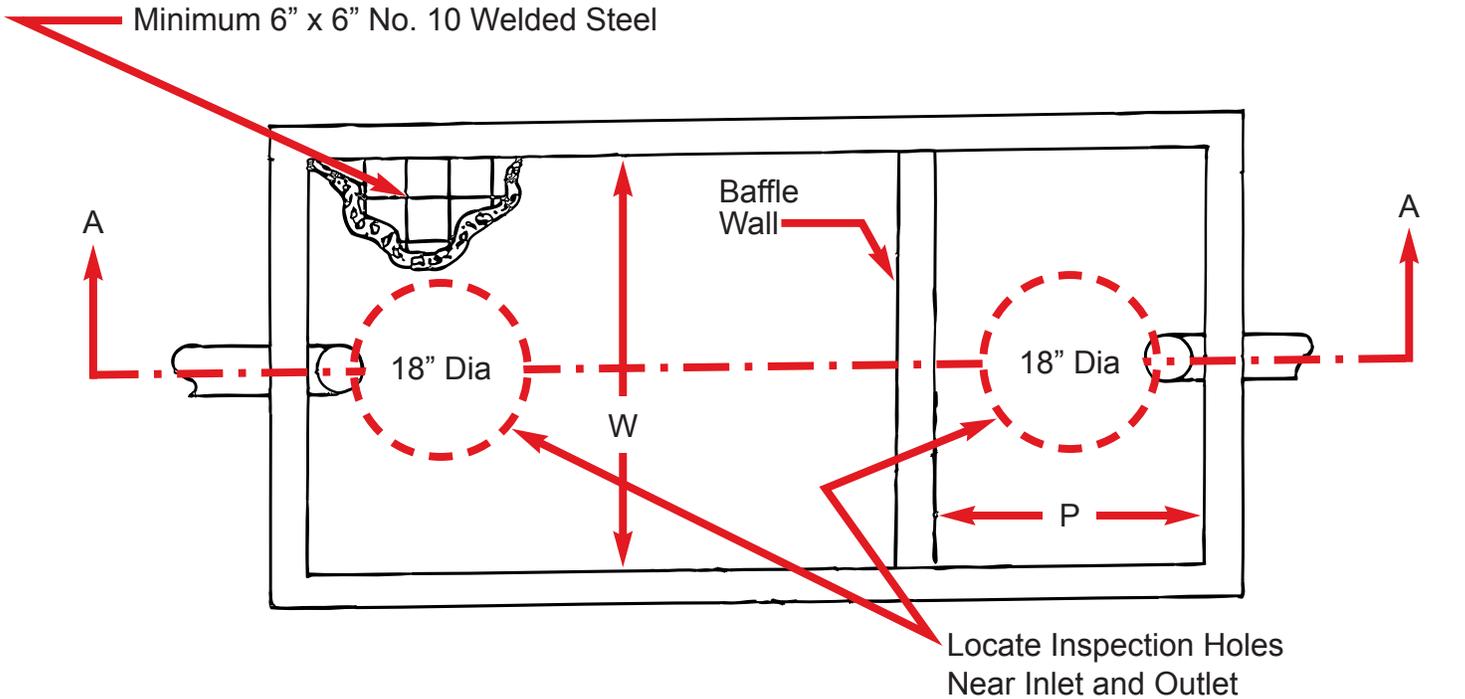
I, _____, certified installer in Jefferson County, Alabama acknowledge that any and all repairs made in conjunction with this waiver shall meet the Regulations concerning conventional on-site sewage disposal systems. I further acknowledge that I shall contact the Health Department and receive a permit to repair if this repair should require any **non-conventional, alternate, or experimental** installation. I also acknowledge that an inspection of the repair is required.

Signed: _____
(Certified Installer)

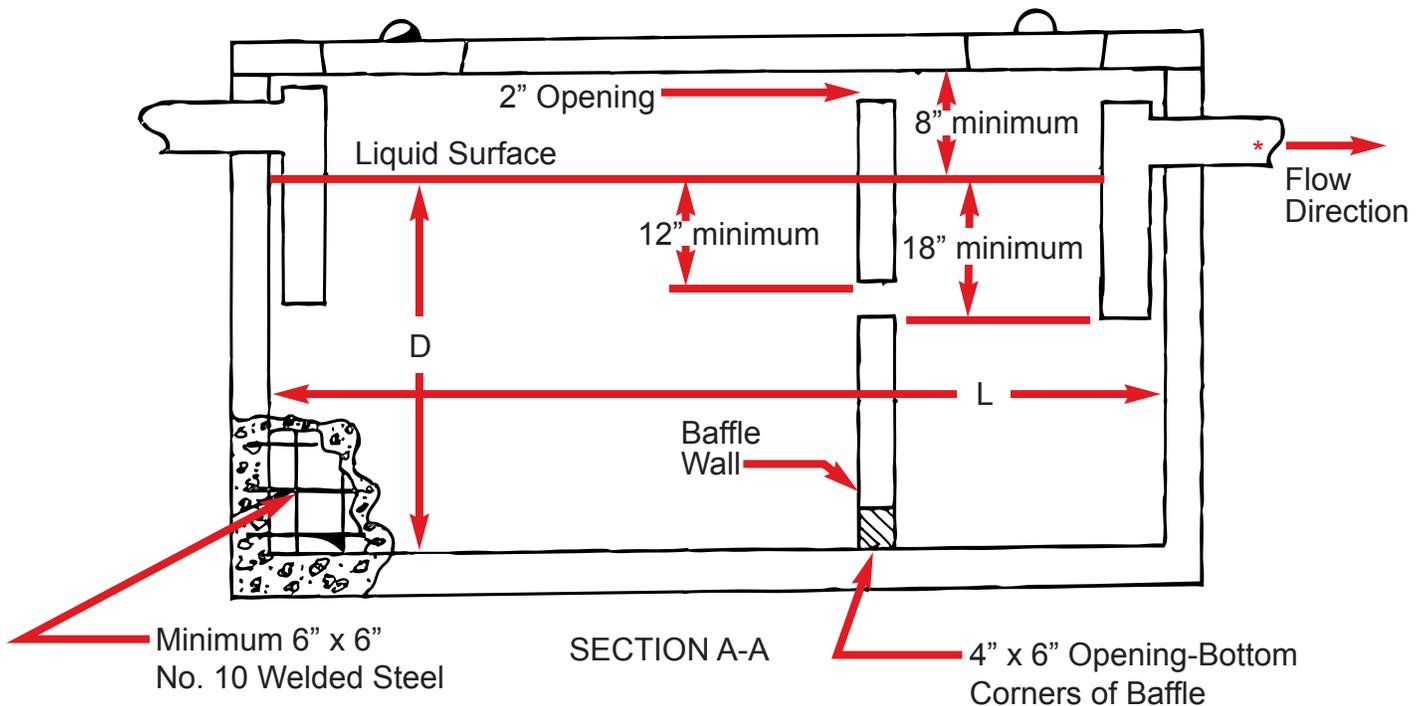
Date: _____

APPENDIX O

SEPTIC TANK DETAILS



PLAN (lids removed)



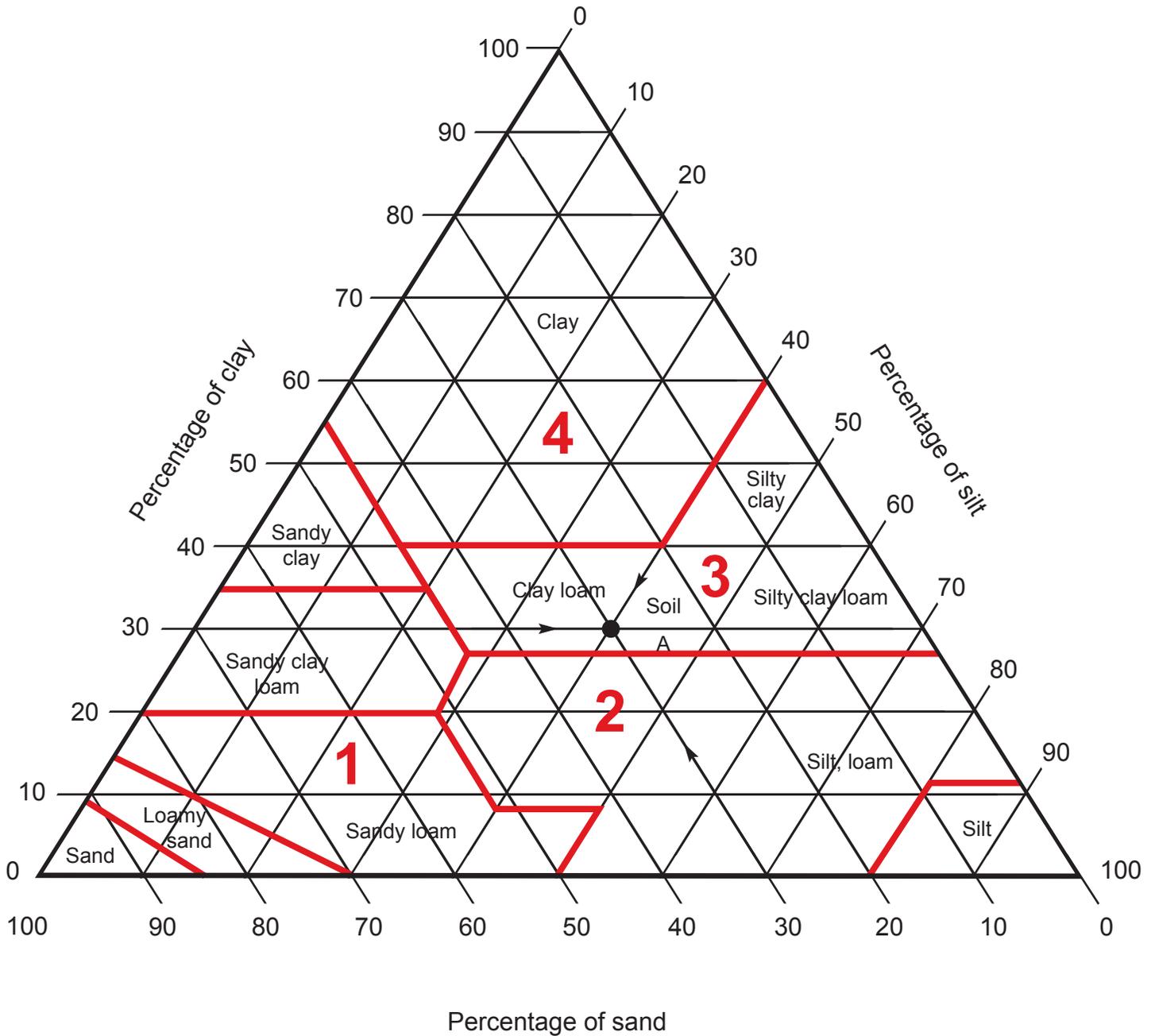
See Part 5.1 of these Regulations for dimensions.

- D- Liquid Depth
- L- Tank Length
- W- Tank Width
- P- Position of Baffle Wall

*NOTE: Invert of outlet tee is to be 3 inches below the invert of the inlet tee.

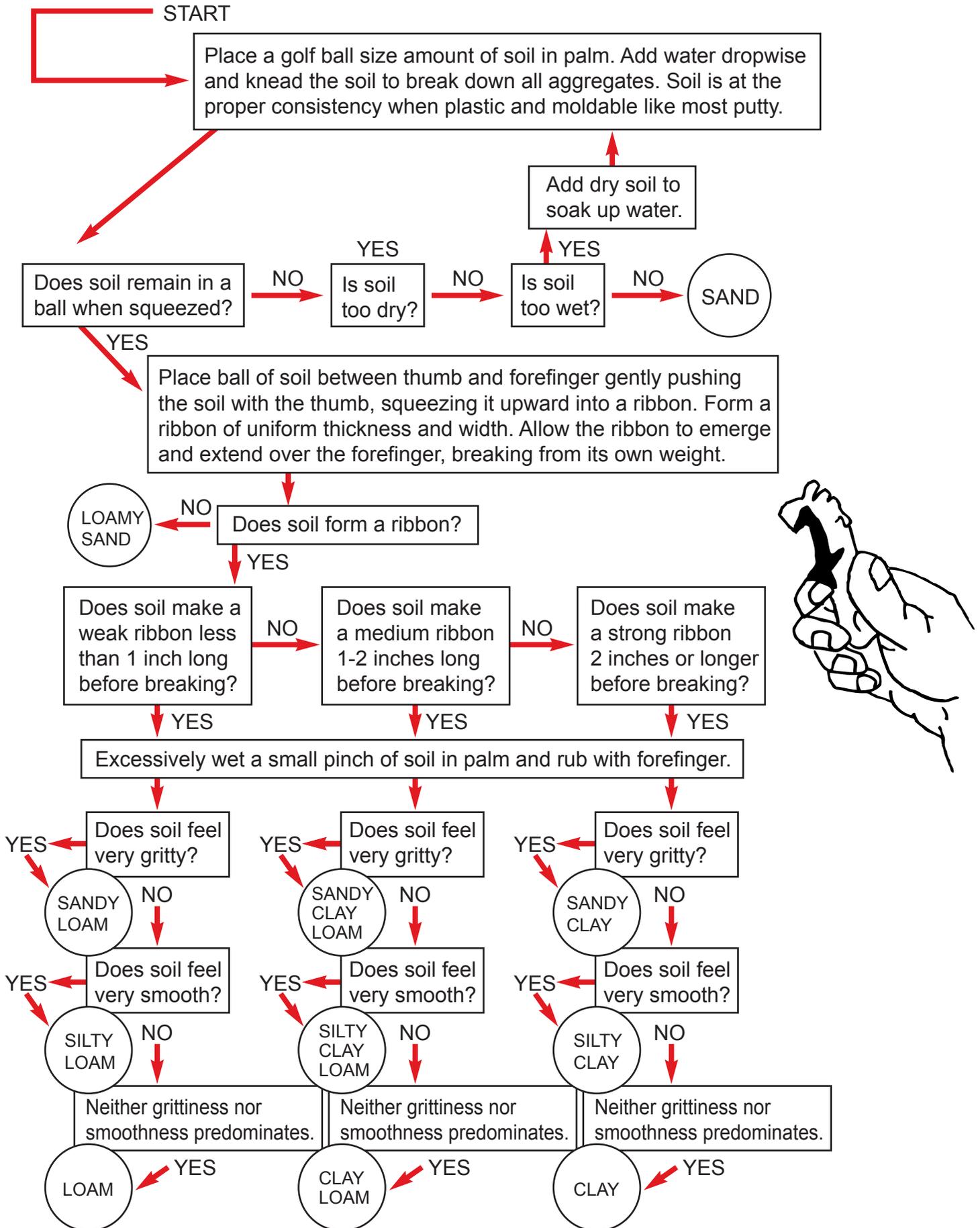
APPENDIX P

USDA SOIL TEXTURAL CLASSIFICATION JEFFERSON COUNTY DEPARTMENT OF HEALTH SOIL TEXTURAL TYPES



See Appendix E of these Regulations for anticipated percolation rates per soil textural type.

APPENDIX P-1 TEXTURE BY FEEL ANALYSIS



R-001923

APPENDIX P-2

FIELD GUIDE TO SOIL TEXTURE CLASSES (USDA)

Introduction - The purpose of this test is to provide a standard procedure for estimating soil texture in the field. The texture is estimated by the "feel" of the moist soil. The texture of a soil cannot be estimated by "feel" if it is either dry or wet.

Definitions

Particle Size Classes

-Sand - Sand has a particle size ranging from 0.05 millimeters (mm) to 2.0 mm in diameter. Sand imparts a gritty feel to soil due to the shape of the individual particles.

-Silt - Silt has a particle size ranging from 0.002 mm to 0.05 in diameter. When moist, silt has a floury feel and does not ribbon when pressed between the thumb and forefinger due to the shape of the individual particles. When placed between the teeth, silt has a gritty feeling.

-Clay - Clay has a particle size less than 0.02 mm in diameter. Clay exhibits colloidal properties, has a negative charge, and is flat and platelike in shape. Moist clay is sticky and will ribbon readily when pressed between the thumb and forefinger. When placed between the teeth, clay has a smooth, slick feeling.

-Soil Texture - Soil texture refers to the relative proportions of sand, silt and clay particles in a soil material that has a particle size less than two (2) mm in diameter. Soil texture is an indicator of infiltration capacity, permeability, degree of aeration and drainage, as well as other physical characteristics of a soil material.

-Soil Texture Classes - The United States Department of Agriculture (USDA) has identified 12 soil texture classes as follows: sand, loamy sand, sandy loam, sandy clay loam, loam, silt loam, silt, silty clay loam, clay, clay loam, sandy clay and silty clay. Each texture class has a distinctive characteristic (s) which can be estimated in the field by trained personnel.

-Distinguishing Characteristics - The following characteristics are based on moist soil:

TYPE 1

-Sand - Sand has a gritty feel, does not stain the fingers and does not form a ball when moist.

-Loamy Sand - Loamy sand has a gritty feel, stains the fingers (silt and clay) and forms a weak ball, but cannot be handled without breaking.

-Sandy Loam - Sandy loam has a gritty feel, and forms a ball that can be picked up with the fingers and handled with care without breaking.

TYPE 2

-Loam - Loam may have a slightly gritty feel, but does not show a finger print and forms only short ribbons of from 0.25 inch to 0.50 inch in length. Loam will form a ball that can be handled without breaking.

-Silt Loam - Silt loam has a floury feel when moist and will show a finger print, but will not ribbon and forms only a weak ball.

-Silt - Silt has a floury feel when moist and sticky when wet, but will not ribbon and forms a ball that will tolerate some handling.

-Sandy Clay Loam - Sandy clay loam has a gritty feel, but contains enough clay to form a firm ball and may ribbon to form 0.75 inch to one-inch pieces.

TYPE 3

-Silty Clay Loam - Silty clay loam is sticky when moist and will ribbon from one (1) to two (2) inches. Rubbing silty clay loam with the thumbnail produces a moderate sheen. Silty clay loam produces a distinct finger print.

-Clay Loam - Clay loam is sticky when moist. Clay loam forms a thin ribbon of one (1) or two (2) inches in length and produces a slight sheen when rubbed with the thumbnail. Clay loam produces a nondistinct fingerprint.

-Sandy Clay - Sandy clay is plastic, gritty and sticky when moist, and both forms a firm ball and produces a thin ribbon to over two (2) inches in length.

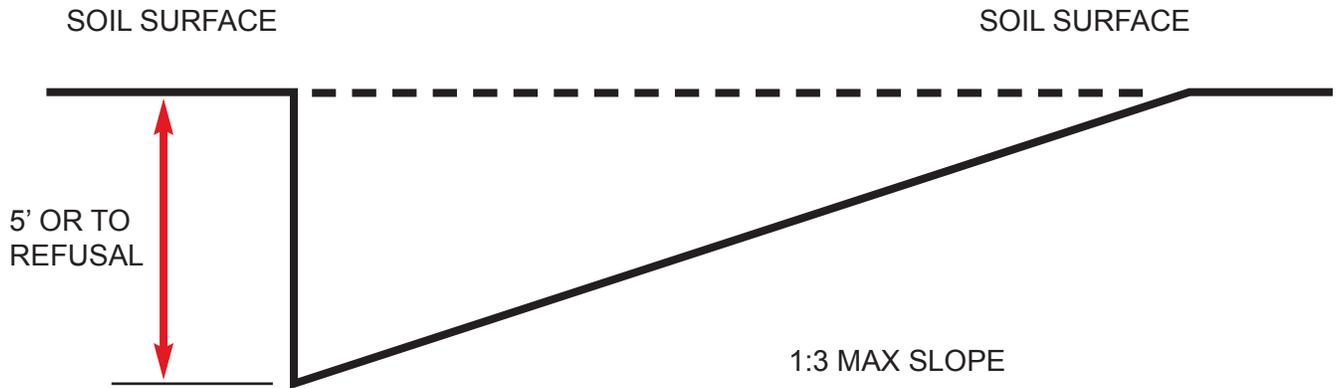
-Silty Clay - Silty clay is both plastic and sticky when moist and lacks any gritty feeling. Silty clay forms a firm ball and readily ribbons to over two (2) inches in length.

TYPE 4

-Clay - Clay is both sticky and plastic when moist, produces a thin ribbon over two (2) inches in length, produces a high sheen when rubbed with the thumbnail, and forms a strong ball resistant to breaking.

APPENDIX Q

MINIMUM GUIDELINES FOR BACKHOE DUG SOIL INSPECTION PITS



SLOPED PIT



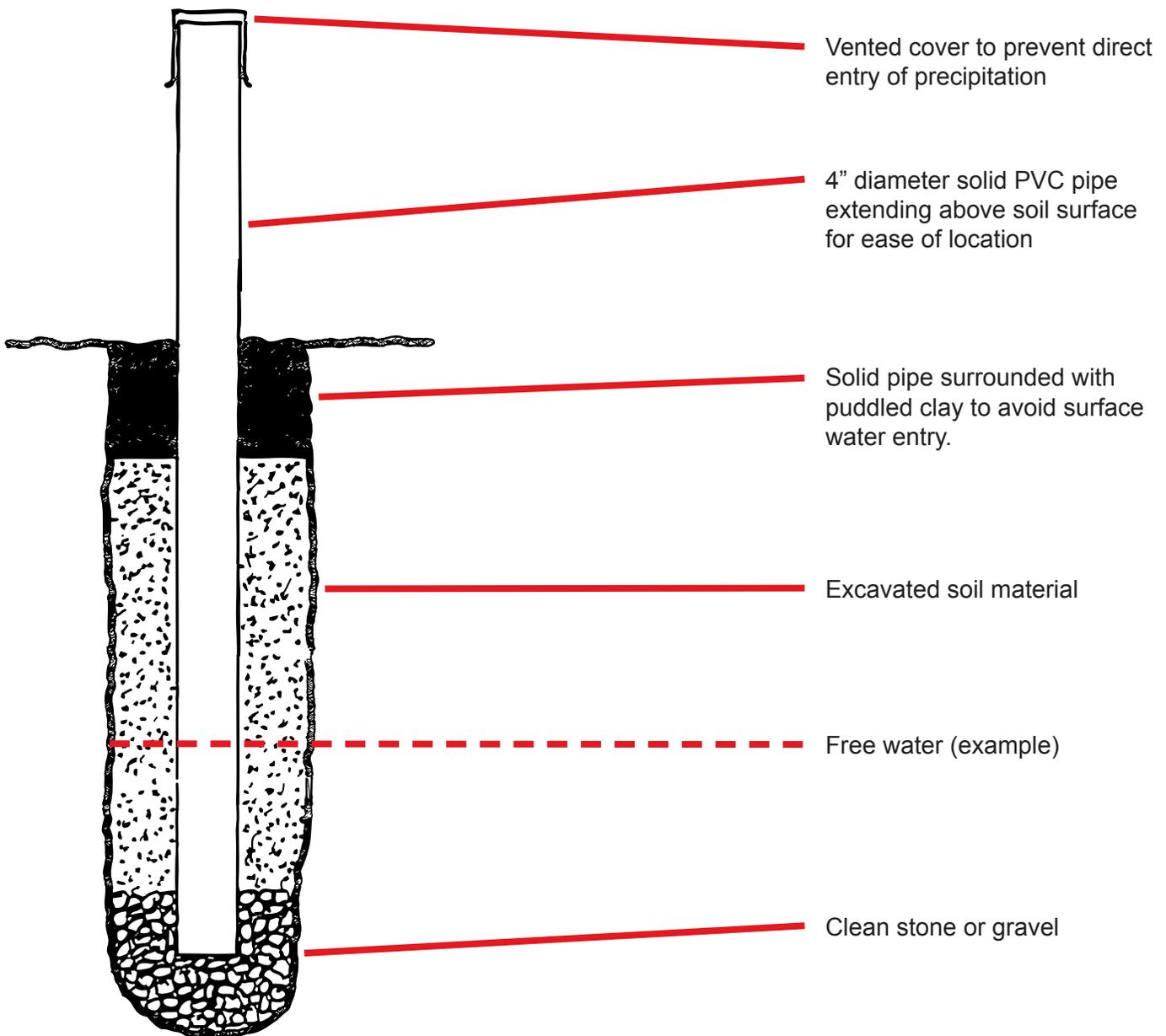
STEPPED PIT

NOTE: For the safety of everyone all inspection pits should be dug in a manner which will allow an individual to walk in or out. Health Department will not evaluate unsafe pits.

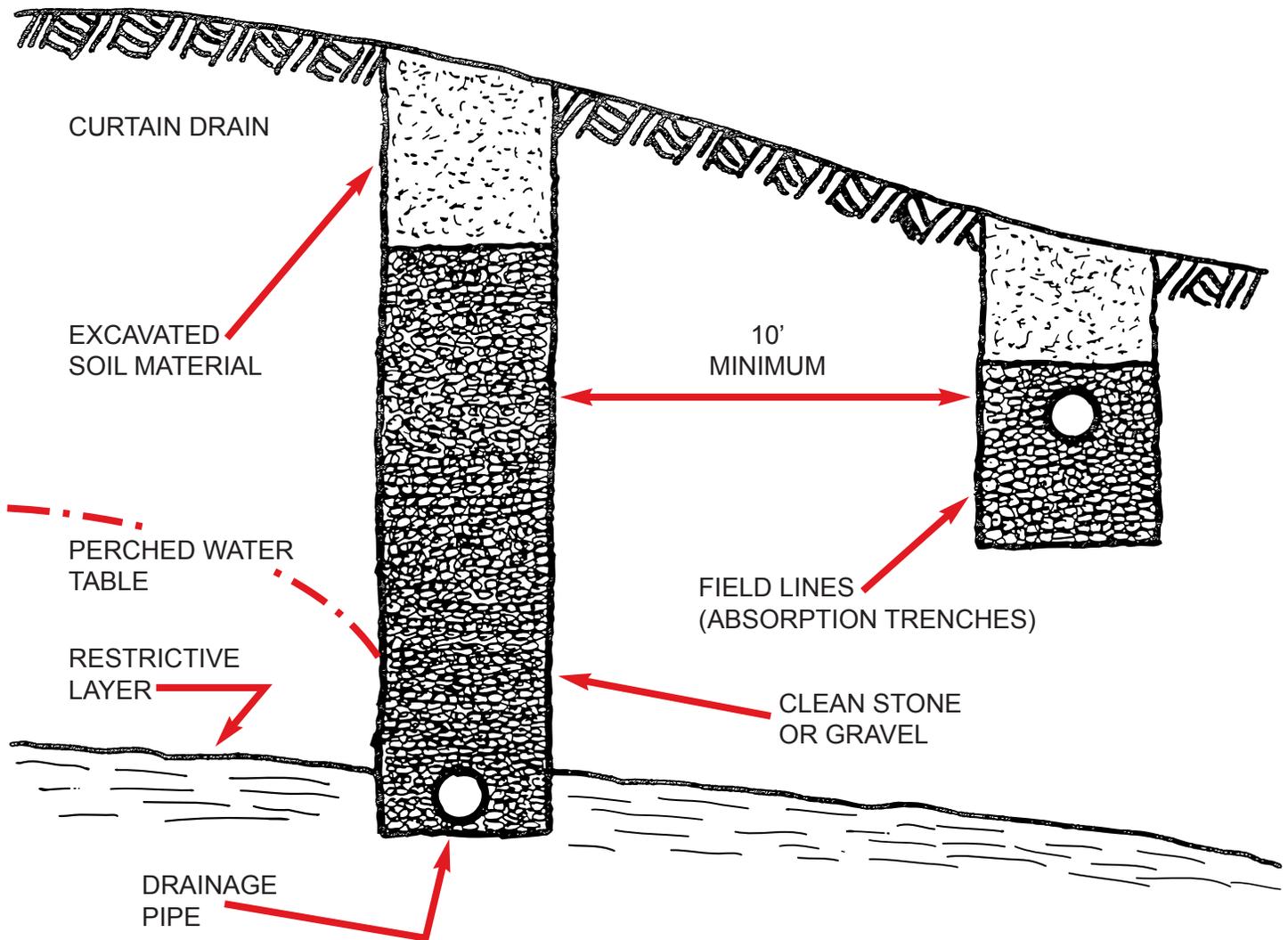
APPENDIX R

MONITORING WELL

Measurements to the free water level in the observation wells shall be reported with an accuracy of 1/2". Documentation of high ground water levels for approved monitoring programs shall be done during the Spring when ground water levels are normal or above normal.



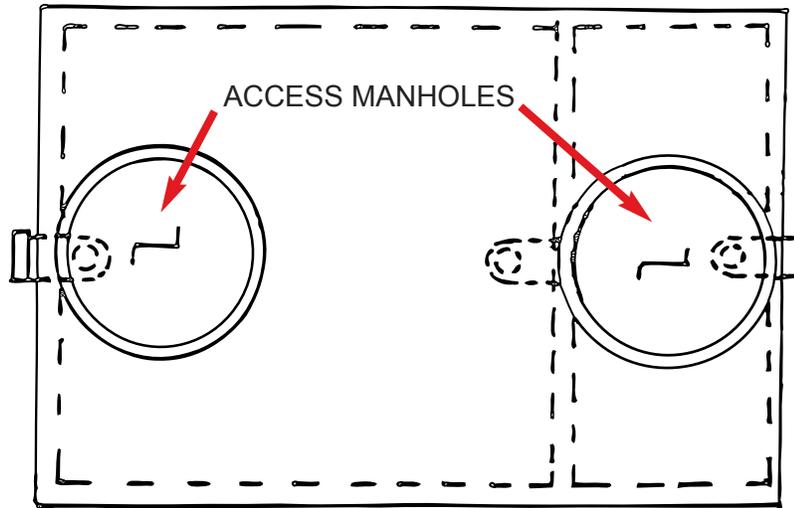
APPENDIX S
TYPICAL CURTAIN DRAIN



NOTE: Curtain drain typically is 18" in width, depth is to be a minimum of 12" below the bottom of the lowest field line. Clean stone or gravel is to be brought to within 12" of the ground surface. Downhill side of the curtain drain may be required to be lined with a heavy mil roll plastic. The french drain should be dug a minimum of 10' upgradient from the first field line. The drainage pipe should be laid so that water will exit the pipe by gravity flow, with exiting water entering an existing drainage course.

APPENDIX T

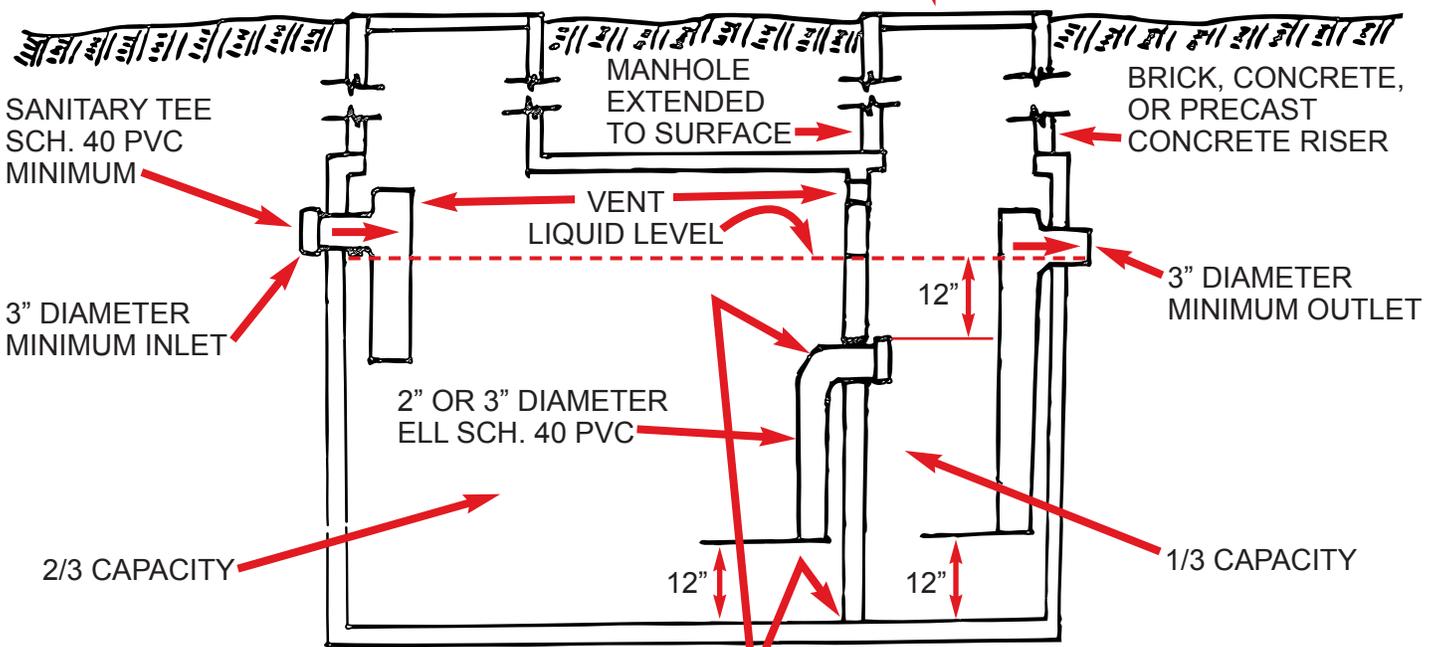
1000 GALLON GREASE TRAP



PLAN VIEW

Minimum 24" diameter C.I. manhole covers or other materials as approved by health department

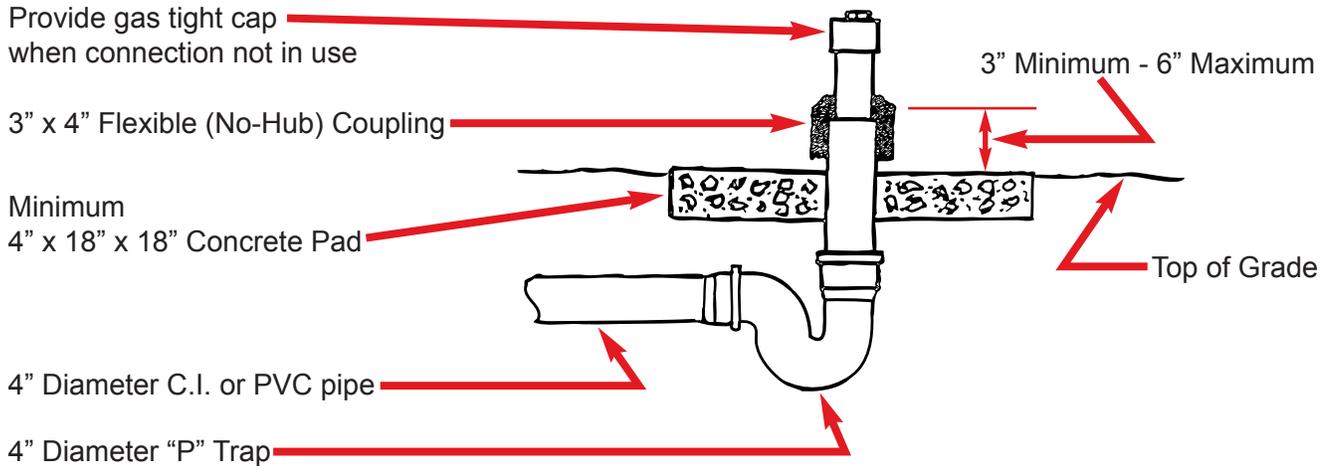
ROUND SURFACE



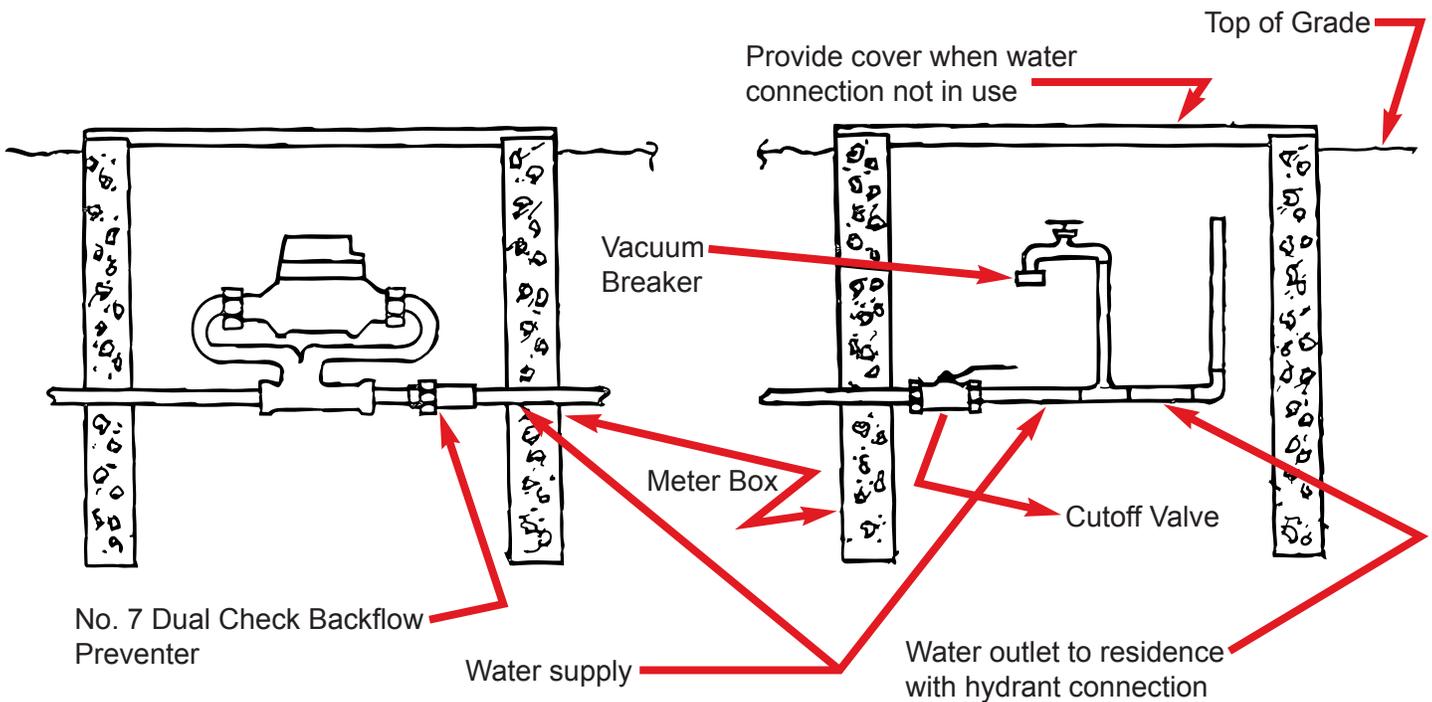
SECTION VIEW

APPENDIX U

TYPICAL MANUFACTURED HOME AND TRAILER PARK WATER AND SEWER CONNECTIONS



SEWER CONNECTION (One per Home/Trailer space)



WATER SUPPLY CONNECTION (One per Home/Trailer space)

Draft

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Prepared for
Bradley Arant Boult Cummings LLP

September 2012

CH2MHILL®

2112 Eleventh Avenue South
Suite 320
Birmingham, AL 35205

THE INFORMATION IN THIS DOCUMENT IS CONFIDENTIAL AND MAY BE LEGALLY PRIVILEGED

R-001931

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Acronyms and Abbreviations

°C	degrees Celsius
BOD ₅	5-day biochemical oxygen demand
CBOD ₅	carbonaceous 5-day biochemical oxygen demand
CPES	CH2M HILL Parametric Cost Estimating System
ENR BCI	Engineering News Record Building Cost Index
MG	million gallon(s)
mgd	million gallon(s) per day
MLSS	mixed liquor suspended solids
NPDES	National Pollutant Discharge Elimination System
Pro2D	process model
RAS	return-activated sludge
SRT	solids retention time
TP	test pit
TSS	Total Suspended Solids
UV	ultraviolet light
VIP	Virginia Initiative Plant
VSS	Volatile Suspended Solids
WAS	waste-activated sludge
WWTP	wastewater treatment plants

SECTION 1

Background

Jefferson County Environmental Services Department oversees the operation of nine wastewater treatment plants (WWTP) in and around Birmingham, Alabama. CH2M HILL was contracted to develop new conceptual-level greenfield designs and opinions of cost for each of the treatment facilities. To that end, process models were created for each facility, which then defined treatment processes including the type of technology employed and size, number, and capacity of individual treatment facilities. The new facility designs are based on historical influent characteristics (carbonaceous 5-day biochemical oxygen demand [CBOD₅], total suspended solids [TSS]) from each plant, with treatment performance based on current National Pollutant Discharge Elimination System (NPDES) permit conditions for discharge flow and loadings.

For comparative purposes, a second opinion of cost was developed for the Village Creek, Valley Creek, and Five Mile Creek WWTPs. The only difference in assumptions for the second opinion of cost for these three plants was the flow. The second opinion of cost was based on the current 20 year projected flow, not the existing permitted flow, for each of the three plants.

The designs developed for each plant are intended to represent what is considered, in our opinion, to be a reasonable and representative design for the particular capacity and permitted performance of each plant and not a direct copy of what is currently in operation. For that reason, the designs described in this document, for the various plants, may differ significantly from what is currently in use.

The Sections below provide details of the assumptions made for each opinion of cost. Table 1.1 and 1.2 present a summary of the opinions of cost and shows an opinion of adjusted cost. The adjusted cost correlates the 2012 dollars on which the opinions are based, to the year dollars when the respective plant was placed in service. The Engineering News Record Building Cost Index (ENR BCI) was used for the dollar year adjustment.

TABLE 1-1

Summary of Opinions of Cost: Comparing Costs in 2012 Dollars and 2012 Dollars Adjusted to Date Plant Placed in Service for WWTPs Sized for 2012 Permitted Flows

	Plant	Opinion of Cost 2012 Dollars (\$)	In-Service Date	ENR BCI Index for In-Service Date	ENR BCI Index for 2012	Conversion Factor	2012 Dollars Adjusted to In-Service Date (\$)
1	Valley Creek						
	Construction Cost:	421,290,000	7/5/2005	41.84	51.59	0.811	341,670,000
	Total Capital Cost:	518,200,000					420,270,000
2	Village Creek						
	Construction Cost:	369,110,000	6/19/2003	36.63	51.59	0.710	262,080,000
	Total Capital Cost:	454,030,000					322,370,000
3	Five Mile Creek						
	Construction Cost:	146,100,000	12/1/2008	48.37	51.59	0.938	136,980,000
	Total Capital Cost:	179,720,000					168,500,000
4	Cahaba						
	Construction Cost:	122,240,000	4/1/2005	41.84	51.59	0.811	99,140,000
	Total Capital Cost:	150,370,000					121,950,000

TABLE 1-1

Summary of Opinions of Cost: Comparing Costs in 2012 Dollars and 2012 Dollars Adjusted to Date Plant Placed in Service for WWTPs Sized for 2012 Permitted Flows

	Plant	Opinion of Cost 2012 Dollars (\$)	In-Service Date	ENR BCI Index for In-Service Date	ENR BCI Index for 2012	Conversion Factor	2012 Dollars Adjusted to In-Service Date (\$)
5	Leeds						
	Construction Cost:	46,400,000	4/20/1995	30.97	51.59	0.600	27,850,000
	Total Capital Cost:	57,090,000					34,270,000
6	Turkey Creek						
	Construction Cost:	52,620,000	3/21/2005	41.18	51.59	0.798	42,000,000
	Total Capital Cost:	64,740,000					51,680,000
7	Trussville						
	Construction Cost:	40,450,000	5/21/1998	33.76	51.59	0.654	26,470,000
	Total Capital Cost:	49,770,000					32,570,000
8	Prudes Creek						
	Construction Cost:	18,670,000	7/1/2004	39.53	51.59	0.766	14,310,000
	Total Capital Cost:	22,990,000					17,620,000
9	Warrior						
	Construction Cost:	11,240,000	7/31/2006	43.35	51.59	0.840	9,440,000
	Total Capital Cost:	13,840,000					11,630,000
Totals	Construction Cost:	1,228,120,000			Totals	Construction Cost:	959,940,000
	Total Capital Cost:	1,510,750,000				Total Capital Cost:	1,180,860,000

TABLE 1-2

Summary of Opinions of Cost: Comparing Costs in 2012 Dollars and 2012 Dollars Adjusted to Date Plant Placed in Service with Village, Valley, and Five Mile WWTPS Sized for Current 20-year Projected Flows

	Plant	Opinion of Cost 2012 Dollars (\$)	In-Service Date	ENR BCI Index for In-Service Date	ENR BCI Index for 2012	Conversion Factor	2012 Dollars Adjusted To In- Service Date (\$)
1	Valley Creek						
	Construction Cost:	282,260,000	7/5/2005	41.84	51.59	0.811	228,920,000
	Total Capital Cost:	347,200,000					281,580,000
2	Village Creek						
	Construction Cost:	290,690,000	6/19/2003	36.63	51.59	0.710	206,400,000
	Total Capital Cost:	357,570,000					253,880,000

TABLE 1-2

Summary of Opinions of Cost: Comparing Costs in 2012 Dollars and 2012 Dollars Adjusted to Date Plant Placed in Service with Village, Valley, and Five Mile WWTPS Sized for Current 20-year Projected Flows

	Plant	Opinion of Cost 2012 Dollars (\$)	In-Service Date	ENR BCI Index for In-Service Date	ENR BCI Index for 2012	Conversion Factor	2012 Dollars Adjusted To In- Service Date (\$)
3	Five Mile Creek						
	Construction Cost:	80,410,000	12/1/2008	48.37	51.59	0.938	75,390,000
	Total Capital Cost:	98,930,000					92,760,000
4	Cahaba						
	Construction Cost:	122,240,000	4/1/2005	41.84	51.59	0.811	99,140,000
	Total Capital Cost:	150,370,000					121,950,000
5	Leeds						
	Construction Cost:	46,400,000	4/20/1995	30.97	51.59	0.600	27,850,000
	Total Capital Cost:	57,090,000					34,270,000
6	Turkey Creek						
	Construction Cost:	52,620,000	3/21/2005	41.18	51.59	0.798	42,000,000
	Total Capital Cost:	64,740,000					51,680,000
7	Trussville						
	Construction Cost:	40,450,000	5/21/1998	33.76	51.59	0.654	26,470,000
	Total Capital Cost:	49,770,000					32,570,000
8	Prudes Creek						
	Construction Cost:	18,670,000	7/1/2004	39.53	51.59	0.766	14,310,000
	Total Capital Cost:	22,990,000					17,620,000
9	Warrior						
	Construction Cost:	11,240,000	7/31/2006	43.35	51.59	0.840	9,440,000
	Total Capital Cost:	13,840,000					11,630,000
Totals	Construction Cost:	944,980,000			Totals	Construction Cost:	729,920,000
	Total Capital Cost:	1,162,500,000				Total Capital Cost:	897,940,000

Valley Creek WWTP Modeling and Cost Opinion

2.1 Valley Creek WWTP

The Valley Creek WWTP NPDES #AL0023655 is a two-stage activated sludge facility with effluent filtration and ultraviolet light (UV) disinfection, which serves the southern part of Jefferson County. The plant is currently permitted to treat 85 million gallons per day (mgd) with a peak design flow of 170 mgd. The plant also includes 110 million gallons (MG) of wet weather storage. The solids handling trains include gravity thickeners, anaerobic digestion, belt filter press dewatering, and lime addition to make sure that the biosolids meet Class B requirements. The biosolids are then land applied at two County-leased reclamation sites.

2.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Valley Creek WWTP* (Jefferson County, 2011a) and *Valley Creek Wastewater Treatment Plant Energy and Process Optimization Study* (Hazen & Sawyer, 2012a). The values used in the process modeling are summarized in Table 2-1.

TABLE 2-1

Valley Creek WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	85 mgd
Peak Design Flow	170 mgd
Design cBOD ₅	106,400 lbs/day at 150 mg/L
Design TSS	163,145 lbs/day at 230 mg/L
Design TKN	18,550 lbs/day at 26 mg/L
Design NH ₃ -N	12,000 lbs/day at 17 mg/L
Design TP	2,840 lbs/day at 4 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. Volatile Suspended Solids:Total Suspended Solids (VSS:TSS) ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14 degrees Celsius (°C), which is an assumed value based on similar locations.

Notes:

- lbs/day = pounds per day
 mg/L = milligrams per liter
 NH₃-N = ammonia-nitrogen
 TKN = total Kjeldahl nitrogen
 TP = test pit

2.3 Effluent Permit Values

The current NPDES permit for the Valley Creek WWTP includes the following values (see Table 2-2), which define the level of treatment necessary for the new design. The average design flow is listed as 85 mgd and the average design 5-day biochemical oxygen demand (BOD₅) loading as 141,780 lbs/day.

TABLE 2-2

Valley Creek WWTP Permit Limits

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	8.0	24.0	1.0	3.0
December-April	8.0	24.0	1.0	4.0

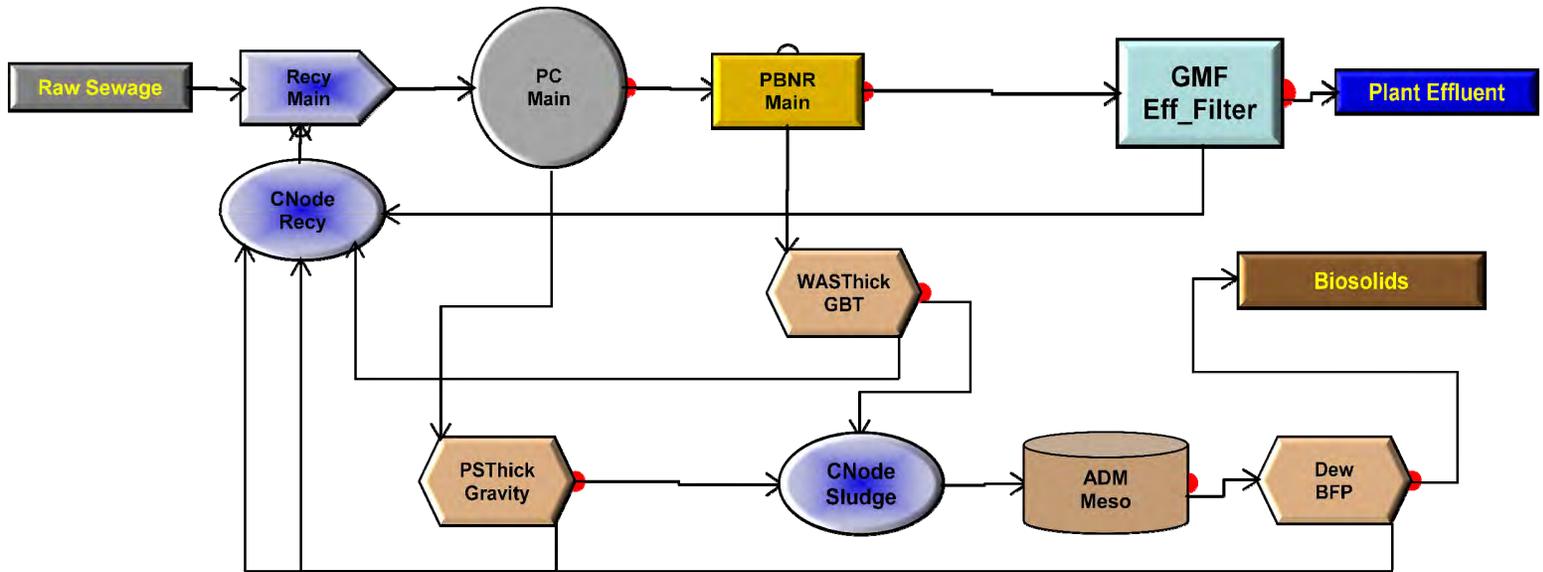
2.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Circular primary clarifiers with primary scum and sludge pumping
- Activated sludge secondary treatment, configured as a modified Ludzack-Ettinger process
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- Return-activated sludge (RAS)/waste-activated sludge (WAS) pumping system
- Deep bed granular media effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity primary sludge thickeners
- Centrifuge WAS thickeners and polymer system
- Internal recycle collection and pumping
- Anaerobic digestion and mixing system
- Effluent pump station
- Centrifuge dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 2-1).

FIGURE 2-1
Valley Creek WWTP Process Flow Diagram



Notes:

- ADM Meso = mesophilic anaerobic digestion
- CNode = combination node
- Dew BFP = belt filter press dewatering
- Eff = effluent
- GBT = gravity belt thickener
- GMF = granular media filtration
- PBNR = biological nutrient removal process module
- PC = primary clarifier
- PS Thick = primary sludge thickening
- Recy = recycle

A design data summary of the proposed major treatment facilities is provided below (see Table 2-3).

TABLE 2-3

Valley Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	11
Capacity, each	60 mgd
Capacity, total	660 mgd
Flow Equalization	
Number	10
Volume, each	11 MG
Volume, total	110 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	5
Capacity, each	42.5 mgd
Capacity, total	212.5 mgd
Grit Removal	
Type	Vortex
Number	4
Capacity, each	42.5 mgd
Capacity, total	170 mgd
Primary Clarifiers	
Type	Circular
Number	8
Diameter, each	130 ft
Surface area, each	13,100 sf
Surface area, total	105,000 sf
Bioreactors (activated sludge process)	
Type	Plug flow
Number	10
Design SRT	13 days at 14°C
Design MLSS	3,300 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Mixed liquor recycle rate	250% of design flow rate
Volume, each	3.0 MG
Volume, total	30 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	5
Capacity, each	23,000 scfm
Capacity, total	115,000 scfm

TABLE 2-3

Valley Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Secondary Clarifiers	
Type	Circular
Number	10
Diameter, each	150 ft
Surface area, each	18,000 sf
Surface area, total	180,000 sf
Effluent Filters	
Type	Deep bed granular media
Number	30
Area, each	536 sf
Area, total	16,000 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	11
Banks per Channel	4
Design Transmittance	65%
Design Dose	40 mJ/cm ²
Primary Sludge Thickening	
Type	Gravity
Number	5
Diameter, each	45 ft
Surface area, each	1,590 sf
Surface area, total	7,950 sf
WAS Thickening	
Type	Centrifuge
Number	7
Capacity, each	380 gpm
Capacity, total	2,660 gpm
Sludge Stabilization	
Type	Anaerobic Digestion
Number	8
Mixing system	Mechanical pumping/jet mixing
Design SRT	20 days
Estimated Volatile Solids Reduction	43%
Volume, each	0.88 MG
Volume, total	7.0 MG
Digested Sludge Dewatering	
Type	Centrifuge
Number	4
Capacity, each	300 gpm
Capacity, total	1,200 gpm

TABLE 2-3

Valley Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Emergency Generators	
Number	5
Capacity, each	3100 kW
Capacity, total	15,500 kW

Notes:

SRT	=	sludge retention time
MLSS	=	mixed-liquor suspended solids
ft	=	feet
sf	=	square feet
%	=	percent
scfm	=	standard cubic feet per minute
mJ/cm ²	=	milli-Joules per square centimeter
gpm	=	gallons per minute
kW	=	kilo-Watts

2.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (85 mgd) and under winter conditions, is summarized below (see Table 2-4).

TABLE 2-4

Valley Creek WWTP Predicted Effluent Quality*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.7
TSS	3.6
TKN	1.4
NH ₃ -N	0.1
TP	2.4

2.6 Cost Opinion

Cost estimates were prepared using the CH2M HILL Parametric Cost Estimating System (CPES). CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 2-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the

construction costs. A more detailed summary of estimated project costs is included as Appendix A at the end of this document.

TABLE 2-5
Valley Creek WWTP Construction and Capital Cost Estimates
Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

	Cost ^a (\$)
Construction Cost	421,290,000
Capital Cost	518,200,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.
4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.
12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Village Creek WWTP Modeling and Cost Opinion

3.1 Village Creek WWTP

The Village Creek WWTP NPDES #AL0023647 is a two-stage activated sludge facility with effluent filtration and UV disinfection, which serves the central part of Jefferson County. Village Creek consists of two plants: an older plant and a new plant. Currently, each plant is permitted to treat 30 mgd with a combined peak flow (bypassing biological treatment) of 280 mgd. Both plants are based on activated sludge treatment with intermediate and final clarifiers. Sludge handling consists of anaerobic digestion, centrifuge dewatering, and lime conditioning to make sure treatment meets Class B standards. The biosolids are then land applied at two County-leased reclamation sites.

3.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Village Creek WWTP* (Jefferson County, 2011b) and *Village Creek Wastewater Treatment Plant Waste Gas Energy Recover and Process Optimization Evaluation* (Hazen & Sawyer, 2012b). The values used in the process modeling are summarized in Table 3-1.

TABLE 3-1

Village Creek WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	60 mgd
Peak Design Flow	160 mgd
Design cBOD ₅	65,700 lbs/day at 131 mg/L
Design TSS	89,800 lbs/day at 179 mg/L
Design TKN	12,200 lbs/day at 24 mg/L
Design NH ₃ -N	7,930 lbs/day at 16 mg/L
Design TP	3,000 lbs/day at 6 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

3.3 Effluent Permit Values

The current NPDES permit for the Village Creek WWTP includes the following values (see Table 3-2), which define the level of treatment necessary for the new design. The average design flow is listed as 60 mgd and the average design BOD₅ loading as 140,112 lbs/day for the combined total of both plants.

TABLE 3-2

Village Creek WWTP Permit Limits*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	4.0	24.0	1.0	Report
December-April	6.0	24.0	1.0	Report

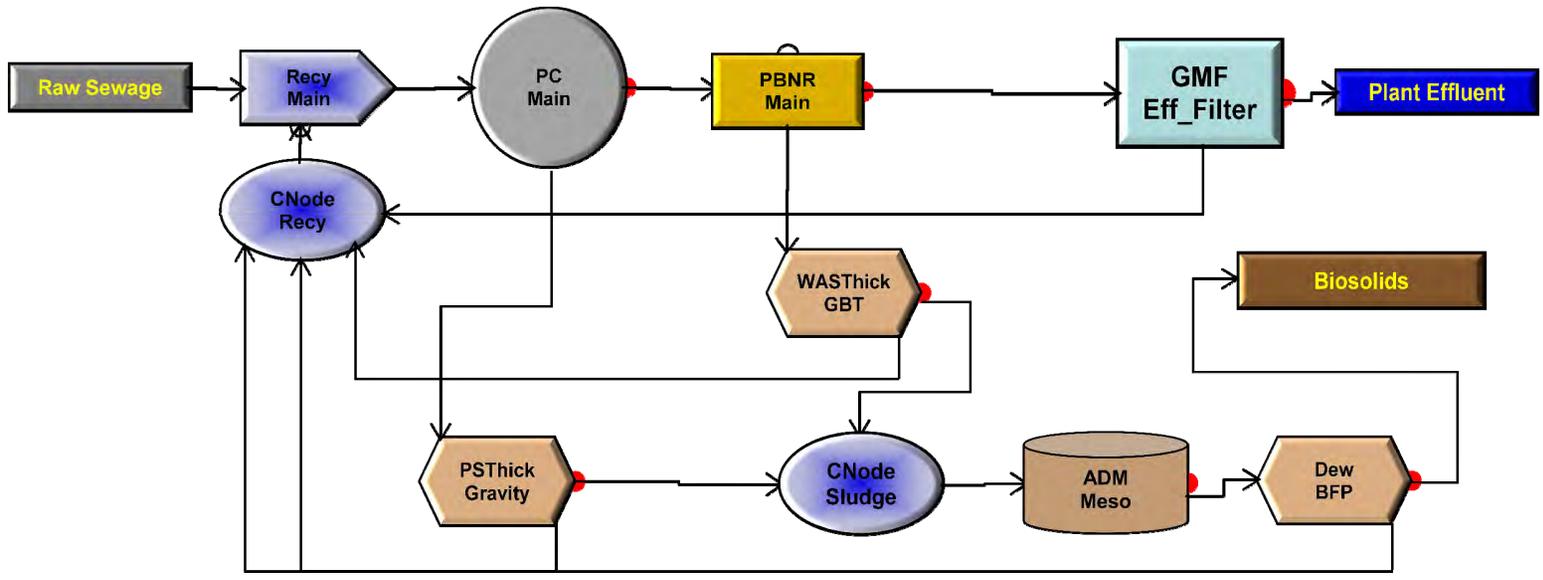
3.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Circular primary clarifiers with primary scum and sludge pumping
- Activated sludge secondary treatment, configured as a modified Ludzack-Ettinger process
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Deep bed granular media effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity primary sludge thickeners
- Centrifuge WAS thickeners and polymer system
- Internal recycle collection and pumping
- Anaerobic digestion and mixing system
- Effluent pump station
- Centrifuge dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 3-1).

FIGURE 3-1
 Village Creek WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 3-3).

TABLE 3-3

Village Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	8
Capacity, each	54.3 mgd
Capacity, total	434 mgd
Flow Equalization	
Number	20
Volume, each	4.5 MG
Volume, total	90 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	4
Capacity, each	40 mgd
Capacity, total	160 mgd
Grit Removal	
Type	Vortex
Number	4
Capacity, each	40.0 mgd
Capacity, total	160 mgd
Primary Clarifiers	
Type	Circular
Number	6
Diameter, each	126 ft
Surface area, each	12,500 sf
Surface area, total	75,000 sf
Bioreactors (activated sludge process)	
Type	Plug flow
Number	10
Design SRT	13 days at 14°C
Design MLSS	3,200 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Mixed liquor recycle rate	250% of design flow rate
Volume, each	1.9 MG
Volume, total	19 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	5

TABLE 3-3
Village Creek WWTP Design Data Summary
Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Facility/Component	Parameter
Capacity, each	14,500 scfm
Capacity, total	72,500 scfm
Secondary Clarifiers	
Type	Circular
Number	10
Diameter, each	135 ft
Surface area, each	14,300 sf
Surface area, total	143,000 sf
Effluent Filters	
Type	Deep bed granular media
Number	26
Area, each	542 sf
Area, total	14,000 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	11
Banks per channel	4
Design Transmittance	65%
Design Dose	40 mJ/cm ²
Primary Sludge Thickening	
Type	Gravity
Number	5
Diameter, each	35 ft
Surface area, each	962 sf
Surface area, total	4,810 sf
WAS Thickening	
Type	Centrifuge
Number	7
Capacity, each	380 gpm
Capacity, total	2,660 gpm
Sludge Stabilization	
Type	Anaerobic Digestion
Number	8
Mixing system	Mechanical pumping/jet mixing
Design SRT	20 days
Estimated Volatile Solids Reduction	43%
Volume, each	0.53 MG
Volume, total	4.2 MG

TABLE 3-3

Village Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Digested Sludge Dewatering	
Type	Centrifuge
Number	4
Capacity, each	250 gpm
Capacity, total	1,000 gpm
Emergency Generators	
Number	6
Capacity, each	3100 kW
Capacity, total	18,600 kW

3.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (60 mgd) and under winter conditions, is summarized below (see Table 3-4).

TABLE 3-4

Village Creek WWTP Predicted Effluent Quality*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.7
TSS	3.7
TKN	1.3
NH ₃ -N	0.1
TP	4.5

3.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 3-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix B at the end of this document.

TABLE 3-5
Village Creek WWTP Construction and Capital Cost Estimates
*Opinions of Cost for Jefferson County, Alabama Wastewater
 Treatment Plants*

	Cost ^a (\$)
Construction Cost	\$369,110,000
Capital Cost	\$454,030,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.
4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.
12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Five Mile Creek WWTP Modeling and Cost Opinion

4.1 Five Mile Creek WWTP

The Five Mile Creek WWTP NPDES #AL0026913 is a single-stage activated sludge facility with effluent filtration and UV disinfection, which serves the central part of Jefferson County. The plant is currently permitted to treat 30 mgd with a peak design flow of 56 mgd. The plant also includes 45 MG of wet weather storage. Sludge handling consists of aerobic digestion, gravity thickening, and sludge drying beds. The biosolids are then land applied at two County-leased reclamation sites.

4.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Five Mile Creek WWTP* (Jefferson County, 2011c) and *County-Wide Biosolids Master Plan*, (CDM, 2011a). Limited data was available on influent characteristics other than cBOD₅, therefore, literature values were assumed for other influent parameters. The raw influent wastewater would generally be characterized as weak. The values used in the process modeling are summarized in Table 4-1.

TABLE 4-1

Five Mile Creek WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	30 mgd
Peak Design Flow	56 mgd
Design cBOD ₅	25,500 lbs/day at 102 mg/L
Design TSS	28,100 lbs/day at 112 mg/L
Design TKN	5,100 lbs/day at 20 mg/L
Design NH ₃ -N	3,000 lbs/day at 12 mg/L
Design TP	1,130 lbs/day at 4 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

4.3 Effluent Permit Values

The current NPDES permit for the Five Mile Creek WWTP includes the following values (see Table 4-2), which define the level of treatment necessary for the new design. The average design flow is listed as 30 mgd and the average design BOD₅ loading as 50,040 lbs/day.

TABLE 4-2

Five Mile Creek WWTP Permit Limits*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	6.0	30.0	2.0	4.0
December-April	7.0	30.0	2.5	5.0

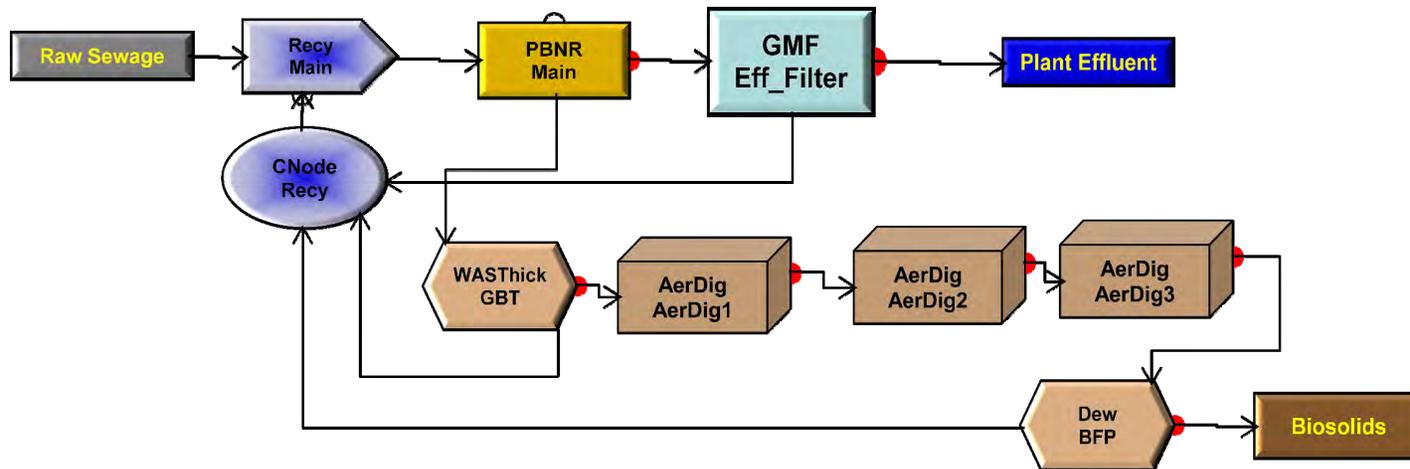
4.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Activated sludge secondary treatment
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Filter feed pump station
- Deep bed granular media effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity Belt WAS thickeners and polymer system
- Internal recycle collection and pumping
- Aerobic digestion
- Centrifuge dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 4-1).

FIGURE 4-1
 Five Mile Creek WWTP Process Flow Diagram



Note:
 AerDig = Aerobic Digester

A design data summary of the proposed major treatment facilities is provided below (see Table 4-3). We would commonly use primary clarifiers and anaerobic digestion on a plant of this size, but because of the weak wastewater, it was decided to forego primary clarification, which makes anaerobic digestion difficult, and use aerobic digestion.

TABLE 4-3

Five Mile Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	8
Capacity, each	14.0 mgd
Capacity, total	112 mgd
Flow Equalization	
Number	5
Volume, each	9 MG
Volume, total	45 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	2
Capacity, each	30 mgd
Capacity, total	60 mgd
Grit Removal	
Type	Vortex
Number	2
Capacity, each	30 mgd
Capacity, total	60 mgd
Bioreactors (activated sludge process)	
Type	Plug flow
Number	3
Design SRT	10 days at 14°C
Design MLSS	3,400 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Volume, each	3.0 MG
Volume, total	9.0 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	5
Capacity, each	5,840 scfm
Capacity, total	29,200 scfm
Secondary Clarifiers	
Type	Circular
Number	4
Diameter, each	144 ft

TABLE 4-3

Five Mile Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Surface area, each	16,250 sf
Surface area, total	65,000 sf
Effluent Filters	
Type	Deep bed granular media
Number	18
Area, each	375 sf
Area, total	6,750 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	6
Banks per Channel	3
Design Transmittance	65%
Design Dose	40 mJ/cm ²
WAS Thickening	
Type	Gravity Belt
Number	3
Size	2 m
Capacity, each	300 gpm
Capacity, total	900 gpm
Sludge Stabilization	
Type	Aerobic Digestion
Number	2 trains of 3 digesters in series
Aeration system	Coarse bubble diffused aeration
Design SRT	29 days
Volume, each	0.3 MG
Volume, total	1.8 MG
Digested Sludge Dewatering	
Type	Centrifuge
Number	2
Capacity, each	225 gpm
Capacity, total	450 gpm
Emergency Generators	
Number	3
Capacity, each	2000 kW
Capacity, total	6000 kW

4.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (30 mgd) and under winter conditions, is summarized below (see Table 4-4).

TABLE 4-4

Five Mile Creek WWTP Predicted Effluent Quality
Opinions of Cost for Jefferson County, Alabama
Wastewater Treatment Plants

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.4
TSS	3.1
TKN	1.0
NH ₃ -N	0.1
TP	2.8

4.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 4-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix C at the end of this document.

TABLE 4-5

Five Mile Creek WWTP Construction and Capital Cost Estimates
Opinions of Cost for Jefferson County, Alabama Wastewater
Treatment Plants

	Cost ^a (\$)
Construction Cost	146,100,000
Capital Cost	179,720,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.

4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.
12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Cahaba River WWTP Modeling and Cost Opinion

5.1 Cahaba River WWTP

The Cahaba River WWTP NPDES #AL0023027 is a five-stage biological nutrient removal activated sludge facility with effluent filtration and UV disinfection, which serves the southeastern part of Jefferson County. The plant is currently permitted to treat 12 mgd with a peak design flow of 16 mgd. The plant also includes approximately 21 MG of wet weather storage. Sludge handling consists of aerobic digestion, thickening, and belt press dewatering. The biosolids are then land applied at two County-leased reclamation sites.

5.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Cahaba River WWTP* (Jefferson County, 2011d) and *Cahaba WWTP TMDL Improvements Project Preliminary Design Report* (CDM, 2011b). The values used in the process modeling are summarized in Table 5-1.

TABLE 5-1

Cahaba River WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	12 mgd
Peak Design Flow	16 mgd
Design cBOD ₅	14,400 lbs/day at 143 mg/L
Design TSS	16,900 lbs/day at 169 mg/L
Design TKN	3,100 lbs/day at 31 mg/L
Design NH ₃ -N	2,650 lbs/day at 26 mg/L
Design TP	600 lbs/day at 6 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

5.3 Effluent Permit Values

The current NPDES permit for the Cahaba River WWTP includes the following values (see Table 5-2), which define the level of treatment necessary for the new design. The average design flow is listed as 12 mgd and the average design BOD₅ loading as 19,912 lbs/day for the combined total of both plants.

TABLE 5-2

Cahaba River WWTP Permit Limits*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	4.0	30.0	1.0	2.0
December-April	10.0	30.0	2.0	4.0

Note:

Additionally, it was agreed that a TP limit of 0.2 mg/L would be assumed to be in place as well for this analysis.

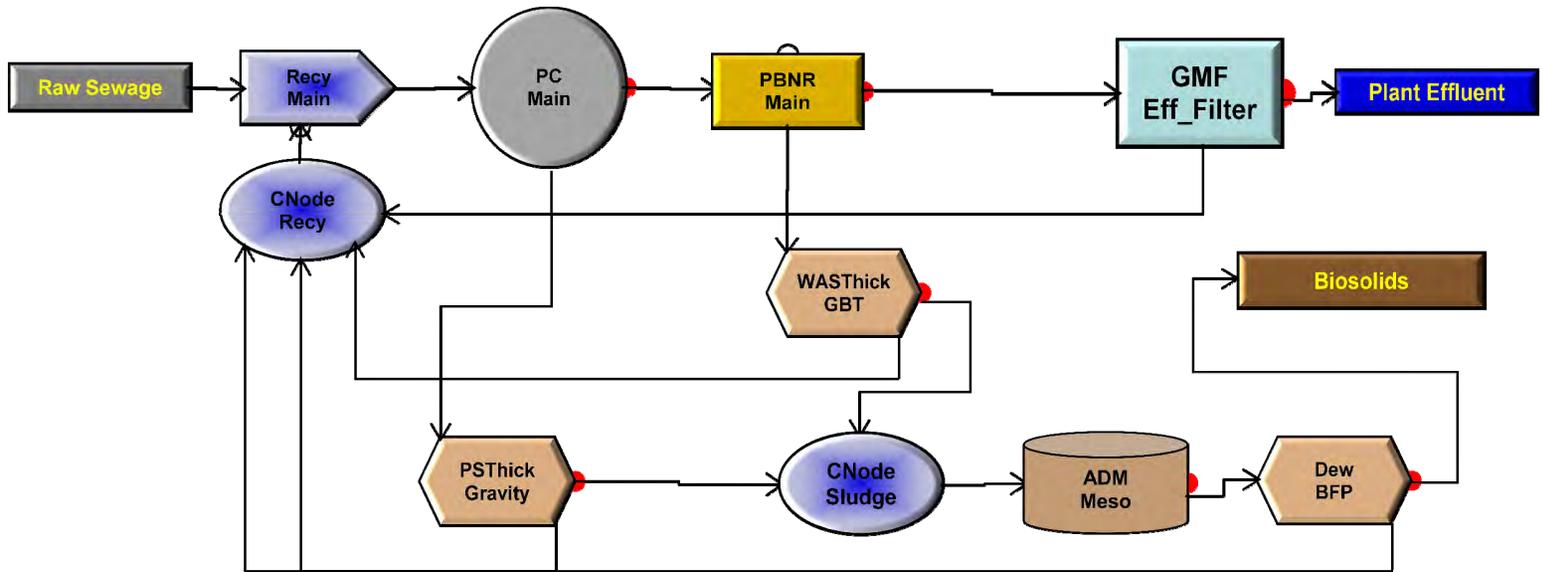
5.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Circular primary clarifiers with primary scum and sludge pumping
- Activated sludge secondary treatment, configured as a Virginia Initiative Plant (VIP) process for phosphorus removal
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- Chemical feed system for metal salt addition (for phosphorus removal)
- RAS/WAS pumping system
- Filter feed pump station
- Deep bed granular media effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity primary sludge thickeners
- Gravity belt WAS thickeners and polymer system
- Internal recycle collection and pumping
- Anaerobic digestion and mixing system
- Centrifuge dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 5-1).

FIGURE 5-1
 Cahaba River WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 5-3).

TABLE 5-3

Cahaba River WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	10
Capacity, each	12.1 mgd
Capacity, total	121 mgd
Flow Equalization	
Number	5
Volume, each	4.2 MG
Volume, total	21 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	2
Capacity, each	8.3 mgd
Capacity, total	16.6 mgd
Grit Removal	
Type	Vortex
Number	2
Capacity, each	8.3 mgd
Capacity, total	16.6 mgd
Primary Clarifiers	
Type	Circular
Number	2
Diameter, each	107 ft
Surface area, each	9,000 sf
Surface area, total	18,000 sf
Bioreactors (activated sludge process)	
Type	Plug flow, VIP process
Number	3
Design SRT	13 days at 14°C
Design MLSS	3,100 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Mixed liquor recycle rates	150% of design flow rate, each
Volume, each	1.0 MG
Volume, total	3.0 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	5
Capacity, each	3,400 scfm

TABLE 5-3

Cahaba River WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Capacity, total	17,000 scfm
Secondary Clarifiers	
Type	Circular
Number	2
Diameter, each	126 ft
Surface area, each	12,500 sf
Surface area, total	25,000 sf
Effluent Filters	
Type	Deep bed granular media
Number	8
Area, each	500 sf
Area, total	4,000 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	2
Banks per Channel	3
Design Transmittance	65%
Design Dose	40 mJ/cm ²
Primary Sludge Thickening	
Type	Gravity
Number	3
Diameter, each	30 ft
Surface area, each	707 sf
Surface area, total	2,121 sf
WAS Thickening	
Type	Gravity Belt
Number	2
Size	2m
Capacity, each	300 gpm
Capacity, total	600 gpm
Sludge Stabilization	
Type	Anaerobic Digestion
Number	4
Mixing system	Mechanical pumping/jet mixing
Design SRT	20 days
Estimated Volatile Solids Reduction	50%
Volume, each	0.3 MG
Volume, total	1.2 MG

TABLE 5-3

Cahaba River WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Digested Sludge Dewatering	
Type	Centrifuge
Number	2
Capacity, each	175 gpm
Capacity, total	350 gpm
Emergency Generators	
Number	1
Capacity, each	2000 kW
Capacity, total	2000 kW

5.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (85 mgd) and under winter conditions, is summarized below (see Table 5-4).

TABLE 5-4

Cahaba River WWTP Predicted Effluent Quality*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.4
TSS	3.7
TKN	1.2
NH ₃ -N	0.1
TP	0.15

5.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 5-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix D at the end of this document.

TABLE 5-5
Cahaba River WWTP Construction and Capital Cost Estimates
*Opinions of Cost for Jefferson County, Alabama Wastewater
 Treatment Plants*

	Cost ^a (\$)
Construction Cost	122,240,000
Capital Cost	150,370,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.
4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.
12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Leeds WWTP Modeling and Cost Opinion

6.1 Leeds WWTP

The Leeds WWTP NPDES #AL0067067 is a single-stage activated sludge facility with effluent filtration and UV disinfection, which serves the eastern part of Jefferson County. The plant is currently permitted to treat 5 mgd with a peak design flow of 10 mgd. The plant also includes 5 MG of wet weather storage. Sludge handling consists of aerobic digestion and sludge drying beds. The biosolids are then land applied at two County-leased reclamation sites.

6.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Leeds WWTP* (Jefferson County, 2011e) and *County-Wide Biosolids Master Plan* (CDM, 2011a). Limited data was available on influent characteristics other than cBOD₅, therefore, literature values were assumed for other influent parameters. The values used in the process modeling are summarized in Table 6-1.

TABLE 6-1

Leeds WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	5.0 mgd
Peak Design Flow	10.0 mgd
Design cBOD ₅	7,370 lbs/day at 177 mg/L
Design TSS	8,100 lbs/day at 193 mg/L
Design TKN	1,360 lbs/day at 33 mg/L
Design NH ₃ -N	800 lbs/day at 19 mg/L
Design TP	286 lbs/day at 7 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

6.3 Effluent Permit Values

The current NPDES permit for the Leeds WWTP includes the following values (see Table 6-2), which define the level of treatment necessary for the new design. The average design flow is listed as 5 mgd and the average design BOD₅ loading as 8,340 lbs/day.

TABLE 6-2

Leeds WWTP Permit Limits*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	4.0	24.0	2.0	4.0
December-April	10.0	24.0	3.0	8.0

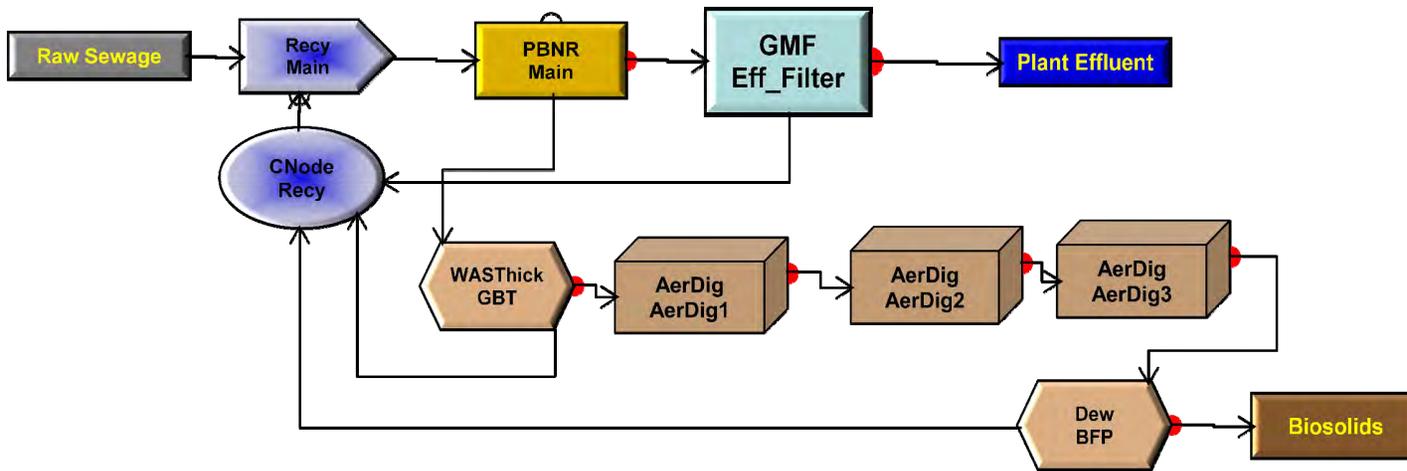
6.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Activated sludge secondary treatment
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Cloth media disk effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity Belt WAS thickeners and polymer system
- Internal recycle collection and pumping
- Aerobic digestion
- Belt press dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 6-1).

FIGURE 6-1
Leeds WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 6-3).

TABLE 6-3

Leeds WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	7
Capacity, each	5.0 mgd
Capacity, total	35 mgd
Flow Equalization	
Number	2
Volume, each	2.5 MG
Volume, total	5.0 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	1
Capacity, each	10 mgd
Capacity, total	10 mgd
Grit Removal	
Type	Vortex
Number	1
Capacity, each	10 mgd
Capacity, total	10 mgd
Bioreactors (activated sludge process)	
Type	Plug flow
Number	3
Design SRT	10 days at 14°C
Design MLSS	3,100 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Volume, each	0.9 MG
Volume, total	2.7 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	4
Capacity, each	1,730 scfm
Capacity, total	6,920 scfm
Secondary Clarifiers	
Type	Circular
Number	3
Diameter, each	75 ft
Surface area, each	4,300 sf
Surface area, total	13,000 sf

TABLE 6-3

Leeds WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Effluent Filters	
Type	Cloth media disk
Number	3
Area, each	535 sf
Area, total	1,600 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	1
Banks per Channel	4
Design Transmittance	65%
Design Dose	40 mJ/cm ²
WAS Thickening	
Type	Gravity Belt
Number	1
Size	2 m
Capacity, each	350 gpm
Capacity, total	350 gpm
Sludge Stabilization	
Type	Aerobic Digestion
Number	2 trains of 3 digesters in series
Aeration system	Coarse bubble diffused aeration
Design SRT	29 days
Volume, each	0.09 MG
Volume, total	0.54 MG
Digested Sludge Dewatering	
Type	Belt Press
Number	1
Capacity, each	225 gpm
Capacity, total	225 gpm
Emergency Generators	
Number	1
Capacity, each	1000 kW
Capacity, total	1000 kW

6.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (30 mgd) and under winter conditions, is summarized below (see Table 6-4).

TABLE 6-4

Leeds WWTP Predicted Effluent Quality
Opinions of Cost for Jefferson County, Alabama
Wastewater Treatment Plants

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.3
TSS	3.2
TKN	1.5
NH ₃ -N	0.1
TP	4.8

6.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 6-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix E at the end of this document.

TABLE 6-5

Leeds WWTP Construction and Capital Cost Estimates
Opinions of Cost for Jefferson County, Alabama Wastewater
Treatment Plants

	Cost ^a (\$)
Construction Cost	46,400,000
Capital Cost	57,090,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.

4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.
12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Turkey Creek WWTP Modeling and Cost Opinion

7.1 Turkey Creek WWTP

The Turkey Creek WWTP NPDES #AL0022926 is a single-stage activated sludge facility with effluent filtration and UV disinfection, which serves the northeastern part of Jefferson County. The plant is currently permitted to treat 5 mgd with a peak design flow of 25 mgd. The plant also includes 14 MG of wet weather storage. Sludge handling consists of aerobic digestion and sludge drying beds. The biosolids are then land applied at two County-leased reclamation sites.

7.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Turkey Creek WWTP* (Jefferson County, 2011f) and *County-Wide Biosolids Master Plan*, (CDM, 2011a). Limited data was available on influent characteristics other than cBOD₅, therefore, literature values were assumed for other influent parameters. The values used in the process modeling are summarized in Table 7-1.

TABLE 7-1

Turkey Creek WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	5.0 mgd
Peak Design Flow	25.0 mgd
Design cBOD ₅	3,600 lbs/day at 86 mg/L
Design TSS	4,320 lbs/day at 103 mg/L
Design TKN	820 lbs/day at 20 mg/L
Design NH ₃ -N	420 lbs/day at 10 mg/L
Design TP	156 lbs/day at 4 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

7.3 Effluent Permit Values

The current NPDES permit for the Turkey Creek WWTP includes the following values (see Table 7-2), which define the level of treatment necessary for the new design. The average design flow is listed as 5 mgd and the average design BOD₅ loading as 7,506 lbs/day.

TABLE 7-2

Turkey Creek WWTP Permit Limits*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
April-October	20.0	24.0	2.5	Report
November-March	20.0	24.0	5.0	Report

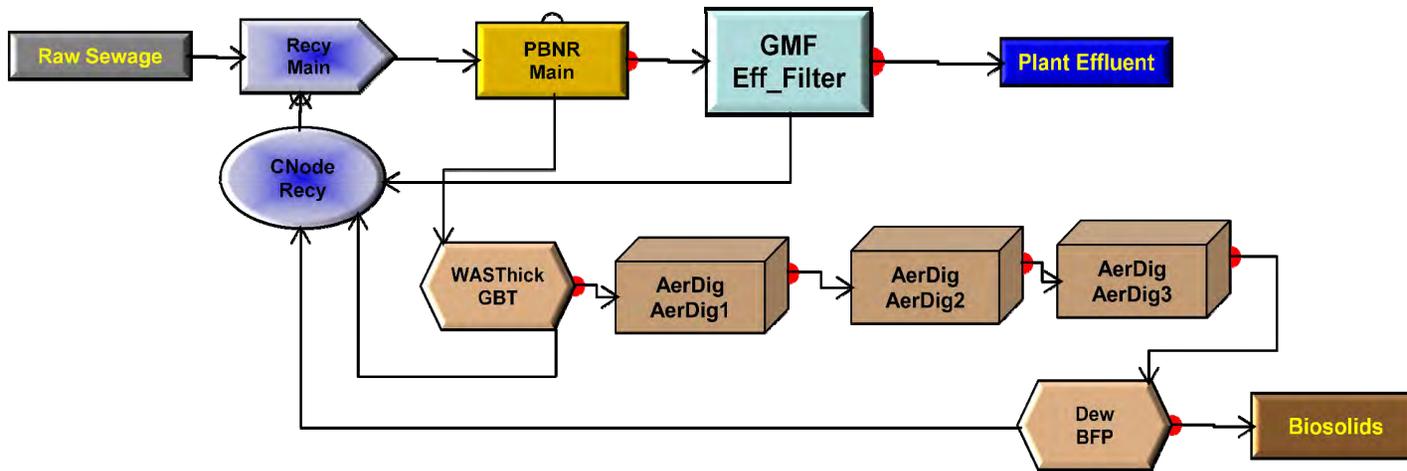
7.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Activated sludge secondary treatment
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Cloth media disk effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity Belt WAS thickeners and polymer system
- Internal recycle collection and pumping
- Aerobic digestion
- Belt press dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 7-1).

FIGURE 7-1
 Turkey Creek WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 7-3).

TABLE 7-3

Turkey Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	4
Capacity, each	8.3 mgd
Capacity, total	33 mgd
Flow Equalization	
Number	3
Volume, each	4.7 MG
Volume, total	14 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	1
Capacity, each	25 mgd
Capacity, total	25 mgd
Grit Removal	
Type	Vortex
Number	1
Capacity, each	25 mgd
Capacity, total	25 mgd
Bioreactors (activated sludge process)	
Type	Plug flow
Number	3
Design SRT	11 days at 14°C
Design MLSS	3,000 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Volume, each	0.6 MG
Volume, total	1.7 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	4
Capacity, each	920 scfm
Capacity, total	3,680 scfm
Secondary Clarifiers	
Type	Circular
Number	3
Diameter, each	78 ft
Surface area, each	4,800 sf
Surface area, total	14,500 sf

TABLE 7-3

Turkey Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Effluent Filters	
Type	Cloth media disk
Number	3
Area, each	600 sf
Area, total	1,800 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	2
Banks per channel	4
Design Transmittance	65%
Design Dose	40 mJ/cm ²
WAS Thickening	
Type	Gravity Belt
Number	1
Capacity, each	150 gpm
Capacity, total	150 gpm
Sludge Stabilization	
Type	Aerobic Digestion
Number	2 trains of 3 digesters in series
Aeration system	Coarse bubble diffused aeration
Design SRT	30 days
Volume, each	0.045 MG
Volume, total	0.27 MG
Digested Sludge Dewatering	
Type	Belt Press
Number	1
Capacity, each	50 gpm
Capacity, total	50 gpm
Emergency Generators	
Number	1
Capacity, each	1500 kW
Capacity, total	1500 kW

7.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (30 mgd) and under winter conditions, is summarized below (see Table 7-4).

TABLE 7-4
Turkey Creek WWTP Predicted Effluent Quality
Opinions of Cost for Jefferson County, Alabama
Wastewater Treatment Plants

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.3
TSS	3.2
TKN	1.5
NH ₃ -N	0.1
TP	2.8

7.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 7-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix F at the end of this document.

TABLE 7-5
Turkey Creek WWTP Construction and Capital Cost Estimates
Opinions of Cost for Jefferson County, Alabama Wastewater
Treatment Plants

	Cost ^a (\$)
Construction Cost	52,620,000
Capital Cost	64,740,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.

4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.
12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Trussville WWTP Modeling and Cost Opinion

8.1 Trussville WWTP

The Trussville WWTP NPDES #AL0022934 is a single-stage activated sludge facility with effluent filtration and UV disinfection, which serves the northeastern part of Jefferson County. The plant is currently permitted to treat 4 mgd with a peak design flow of 12.8 mgd. Sludge handling consists of aerobic digestion, gravity thickening, and sludge drying beds. The biosolids are then land applied at two County-leased reclamation sites.

8.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Trussville WWTP* (Jefferson County, 2011g) and *Trussville WWTP Phase I & II TMDL Improvements Project Preliminary Design Report*, (CDM, 2012). The values used in the process modeling are summarized in Table 8-1.

TABLE 8-1

Trussville WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	4.0 mgd
Peak Design Flow	12.8 mgd
Design cBOD ₅	4,980 lbs/day at 149 mg/L
Design TSS	7,070 lbs/day at 212 mg/L
Design TKN	950 lbs/day at 29 mg/L
Design NH ₃ -N	490 lbs/day at 15 mg/L
Design TP	174 lbs/day at 5 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

8.3 Effluent Permit Values

The current NPDES permit for the Trussville WWTP includes the following values (see Table 8-2), which define the level of treatment necessary for the new design. The average design flow is listed as 4 mgd and the average design BOD₅ loading as 10,014 lbs/day.

TABLE 8-2

Trussville WWTP Permit Limits*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	3.0	30.0	1.0	2.0
December-April	10.0	30.0	1.0	2.0

In addition, this facility has an effluent total phosphorus limit of 3.3 mg/L.

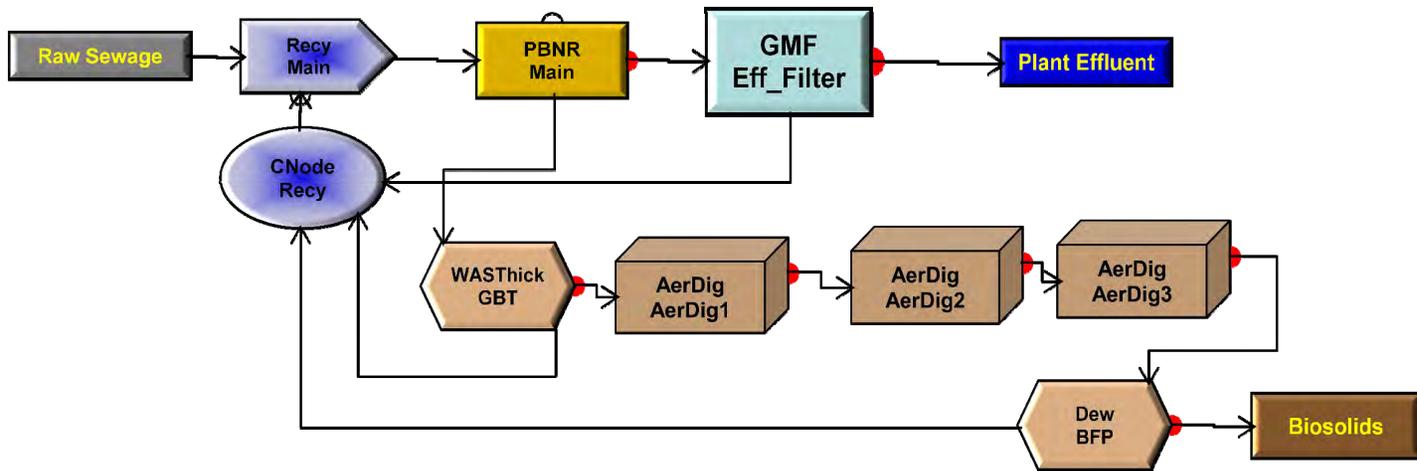
8.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Influent fine screens and grit removal
- Activated sludge secondary treatment
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- Chemical feed system for phosphorus removal
- RAS/WAS pumping system
- Cloth media disk effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity Belt WAS thickeners and polymer system
- Internal recycle collection and pumping
- Aerobic digestion
- Belt press dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below.

FIGURE 8-1
Trussville WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 8-3).

TABLE 8-3
Trussville WWTP Design Data Summary
Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	3
Capacity, each	6.4 mgd
Capacity, total	19.2 mgd
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	1
Capacity, each	12.8 mgd
Capacity, total	12.8 mgd
Grit Removal	
Type	Vortex
Number	1
Capacity, each	12.8 mgd
Capacity, total	12.8 mgd
Bioreactors (activated sludge process)	
Type	Plug flow
Number	3
Design SRT	10 days at 14°C
Design MLSS	3,400 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Volume, each	0.67 MG
Volume, total	2.0 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	4
Capacity, each	1,130 scfm
Capacity, total	4,520 scfm
Secondary Clarifiers	
Type	Circular
Number	3
Diameter, each	74 ft
Surface area, each	4,300 sf
Surface area, total	13,000 sf

TABLE 8-3

Trussville WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Effluent Filters	
Type	Cloth media disk
Number	3
Area, each	467 sf
Area, total	1,400 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	1
Banks per channel	4
Design Transmittance	65%
Design Dose	40 mJ/cm ²
WAS Thickening	
Type	Gravity Belt
Number	1
Capacity, each	150 gpm
Capacity, total	150 gpm
Sludge Stabilization	
Type	Aerobic Digestion
Number	2 trains of 3 digesters in series
Aeration system	Coarse bubble diffused aeration
Design SRT	28 days
Volume, each	0.07 MG
Volume, total	0.42 MG
Digested Sludge Dewatering	
Type	Belt Press
Number	1
Capacity, each	50 gpm
Capacity, total	50 gpm
Emergency Generators	
Number	1
Capacity, each	1500 kW
Capacity, total	1500 kW

8.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (30 mgd) and under winter conditions, is summarized below (see Table 8-4).

TABLE 8-4

Trussville WWTP Predicted Effluent Quality
Opinions of Cost for Jefferson County, Alabama
Wastewater Treatment Plants

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.2
TSS	3.2
TKN	1.3
NH ₃ -N	0.1
TP	2.2

8.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 8-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix G at the end of this document.

TABLE 8-5

Trussville WWTP Construction and Capital Cost Estimates
Opinions of Cost for Jefferson County, Alabama Wastewater
Treatment Plants

	Cost ^a (\$)
Construction Cost	40,450,000
Capital Cost	49,770,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.

4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.
12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Prudes Creek WWTP Modeling and Cost Opinion

9.1 Prudes Creek WWTP

The Prudes Creek WWTP NPDES #AL0056120 is a single-stage activated sludge facility with effluent filtration and UV disinfection, which serves the western part of Jefferson County. The plant is currently permitted to treat 0.9 mgd with a peak design flow of 3.5 mgd. Sludge handling consists of gravity thickening and sludge drying beds. The biosolids are then land applied at two County-leased reclamation sites.

9.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Prudes Creek WWTP* (Jefferson County, 2011h) and *County-Wide Biosolids Master Plan*, (CDM, 2011a). Limited data was available on influent characteristics other than cBOD₅, therefore, literature values were assumed for other influent parameters. The values used in the process modeling are summarized in Table 9-1.

TABLE 9-1

Prudes Creek WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	0.9 mgd
Peak Design Flow	3.5 mgd
Design cBOD ₅	585 lbs/day at 78 mg/L
Design TSS	676 lbs/day at 90 mg/L
Design TKN	147 lbs/day at 20 mg/L
Design NH ₃ -N	75 lbs/day at 10 mg/L
Design TP	28 lbs/day at 4 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

9.3 Effluent Permit Values

The current NPDES permit for the Prudes Creek WWTP includes the following values (see Table 9-2), which define the level of treatment necessary for the new design. The average design flow is listed as 0.9 mgd and the average design BOD₅ loading as 2,144 lbs/day.

TABLE 9-2

Prudes Creek WWTP Permit Limits*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
April-October	8.0	30.0	2.5	5.0
November-March	25.0	30.0	10.0	20.0

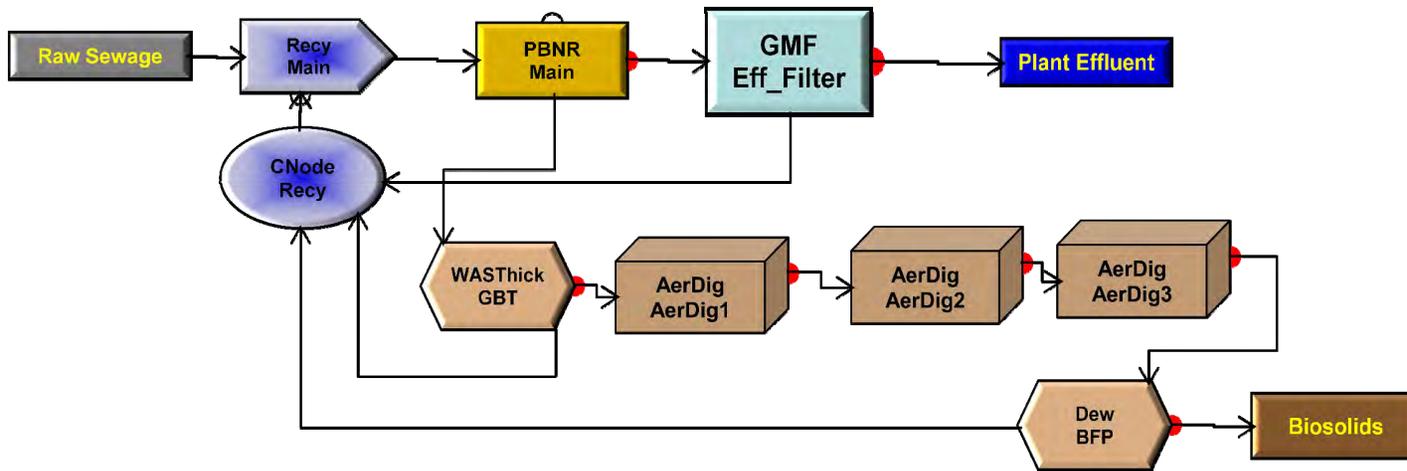
9.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Influent fine screens and grit removal
- Activated sludge secondary treatment
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Cloth media disk effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity Belt WAS thickeners and polymer system
- Internal recycle collection and pumping
- Aerobic digestion
- Belt press dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 9-1).

FIGURE 9-1
 Prudes Creek WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 9-3).

TABLE 9-3

Prudes Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	5
Capacity, each	0.88 mgd
Capacity, total	4.38 mgd
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	1
Capacity, each	3.5 mgd
Capacity, total	3.5 mgd
Grit Removal	
Type	Vortex
Number	1
Capacity, each	3.5 mgd
Capacity, total	3.5 mgd
Bioreactors (activated sludge process)	
Type	Plug flow
Number	2
Design SRT	10 days at 14°C
Design MLSS	3,100 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Volume, each	0.13 MG
Volume, total	0.25 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	3
Capacity, each	357 scfm
Capacity, total	1,070 scfm
Secondary Clarifiers	
Type	Circular
Number	2
Diameter, each	50 ft
Surface area, each	2,000 sf
Surface area, total	4,000 sf

TABLE 9-3

Prudes Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Effluent Filters	
Type	Cloth media disk
Number	2
Area, each	200 sf
Area, total	400 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	1
Banks per channel	3
Design Transmittance	65%
Design Dose	40 mJ/cm ²
WAS Thickening	
Type	Gravity Belt
Number	1
Size	0.3 m
Capacity, each	50 gpm
Capacity, total	50 gpm
Sludge Stabilization	
Type	Aerobic Digestion
Number	2 trains of 3 digesters in series
Aeration system	Coarse bubble diffused aeration
Design SRT	29 days
Volume, each	0.007 MG
Volume, total	0.042 MG
Digested Sludge Dewatering	
Type	Belt Press
Number	1
Size	0.5 m
Capacity, each	25 gpm
Capacity, total	25 gpm
Emergency Generators	
Number	1
Capacity, each	400 kW
Capacity, total	400 kW

9.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (30 mgd) and under winter conditions, is summarized below (see Table 9-4).

TABLE 9-4
Prudes Creek WWTP Predicted Effluent Quality
Opinions of Cost for Jefferson County, Alabama
Wastewater Treatment Plants

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.4
TSS	3.3
TKN	0.8
NH ₃ -N	0.1
TP	2.8

9.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 9-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix H at the end of this document.

TABLE 9-5
Prudes Creek WWTP Construction and Capital Cost Estimates
Opinions of Cost for Jefferson County, Alabama Wastewater
Treatment Plants

	Cost ^a (\$)
Construction Cost	18,670,000
Capital Cost	22,990,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.

4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.
12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Warrior WWTP Modeling and Cost Opinion

10.1 Warrior WWTP

The Warrior WWTP NPDES #AL0050881 is a single-stage activated sludge facility with effluent filtration and UV disinfection, which serves the northern part of Jefferson County. The plant is currently permitted to treat 0.2 mgd with a peak design flow of 0.5 mgd. Sludge handling consists of aerobic digestion and sludge drying beds. The biosolids are then land applied at two County-leased reclamation sites.

10.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Warrior WWTP* (Jefferson County, 2011i) and *County-Wide Biosolids Master Plan*, (CDM, 2011a). Limited data was available on influent characteristics other than cBOD₅, therefore, literature values were assumed for other influent parameters. The values used in the process modeling are summarized in Table 10-1.

TABLE 10-1

Warrior WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	0.2 mgd
Peak Design Flow	0.5 mgd
Design cBOD ₅	891 lbs/day at 534 mg/L
Design TSS	1,000 lbs/day at 600 mg/L
Design TKN	167 lbs/day at 100 mg/L
Design NH ₃ -N	105 lbs/day at 63 mg/L
Design TP	24 lbs/day at 14 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

10.3 Effluent Permit Values

The current NPDES permit for the Warrior WWTP includes the following values (see Table 10-2), which define the level of treatment necessary for the new design. The average design flow is listed as 0.2 mgd and the average design BOD₅ loading as 475 lbs/day.

TABLE 10-2

Warrior WWTP Permit Limits*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
April-October	18.0	24.0	1.2	Report
November-March	25.0	24.0	2.1	Report

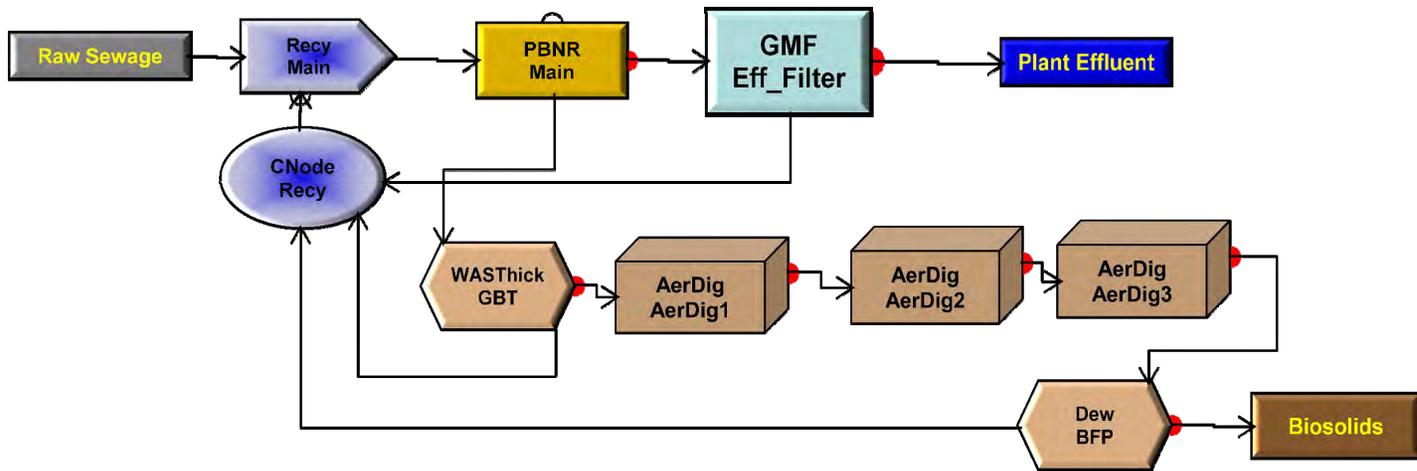
10.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Influent fine screens and grit removal
- Activated sludge secondary treatment
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Cloth media disk effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Internal recycle collection and pumping
- Aerobic digestion with decant thickening
- Belt press dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 10-1).

FIGURE 10-1
Warrior WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 10-3).

TABLE 10-3

Warrior WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	3
Capacity, each	0.25 mgd
Capacity, total	0.75 mgd
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	1
Capacity, each	0.5 mgd
Capacity, total	0.5 mgd
Grit Removal	
Type	Vortex
Number	1
Capacity, each	0.5 mgd
Capacity, total	0.5 mgd
Bioreactors (activated sludge process)	
Type	Plug flow
Number	2
Design SRT	10 days at 14°C
Design MLSS	3,100 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Volume, each	0.17 MG
Volume, total	0.34 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	3
Capacity, each	500 scfm
Capacity, total	1,500 scfm
Secondary Clarifiers	
Type	Circular
Number	2
Diameter, each	23 ft
Surface area, each	400 sf
Surface area, total	800 sf
Effluent Filters	
Type	Cloth media disk
Number	2
Area, each	50 sf
Area, total	100 sf

TABLE 10-3

Warrior WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Effluent UV	
Type	Low Pressure, High Output
Channels	1
Banks per channel	2
Design Transmittance	65%
Design Dose	40 mJ/cm ²
Sludge Stabilization	
Type	Aerobic Digestion/Decant
Number	2 trains of 2 digesters in series
Aeration system	Coarse bubble diffused aeration
Design SRT	30 days
Volume, each	0.035 MG
Volume, total	0.14 MG
Digested Sludge Dewatering	
Type	Belt Press
Number	1
Size	0.5 m
Capacity, each	25 gpm
Capacity, total	25 gpm
Emergency Generators	
Number	1
Capacity, each	250 kW
Capacity, total	250 kW

10.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (30 mgd) and under winter conditions, is summarized below (see Table 10-4).

TABLE 10-4

Warrior WWTP Predicted Effluent Quality*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	3.2
TSS	3.3
TKN	3.8
NH ₃ -N	0.1
TP	7.4

10.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 10-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix I at the end of this document.

TABLE 10-5

Warrior WWTP Construction and Capital Cost Estimates
Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

	Cost ^a (\$)
Construction Cost	11,240,000
Capital Cost	13,840,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.
4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. The peak flow peaking factor used was the same as currently permitted.
8. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
9. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
10. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
11. A location adjustment factor was used for local conditions in Birmingham, AL.

12. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
13. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
14. Operations building and maintenance building sizes were assumed.
15. No contingency was included.

Valley Creek WWTP Modeling and Cost Opinion; Sized Based on Most Recent Flow Projections

11.1 Valley Creek WWTP

The Valley Creek WWTP NPDES #AL0023655 is a two-stage activated sludge facility with effluent filtration and ultraviolet light (UV) disinfection, which serves the southern part of Jefferson County. The plant is currently permitted to treat 85 mgd with a peak design flow of 170 mgd. The plant also includes 110 MG of wet weather storage. The solids handling trains include gravity thickeners, anaerobic digestion, belt filter press dewatering, and lime addition to make sure that the biosolids meet Class B requirements. The biosolids are then land applied at two County-leased reclamation sites.

The most recently completed flow projections (CDM, 2011a) indicate that the maximum anticipated average daily flow for the Valley Creek WWTP is only 34.76 mgd, which is much lower than the permitted flow. Additionally, the Energy and Process Optimization Study (Hazen & Sawyer, 2012a) recommended that the maximum throughput of the plant be limited to 135 mgd based on using the existing 110 MG of wet weather storage. Therefore, the plant was analyzed using these values with the results summarized below.

11.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Valley Creek WWTP* (Jefferson County, 2011a) and *Valley Creek Wastewater Treatment Plant Energy and Process Optimization Study* (Hazen & Sawyer, 2012a). The values used in the process modeling are summarized in Table 11-1.

TABLE 11-1

Valley Creek WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	34.76 mgd
Peak Design Flow	135.0 mgd
Design cBOD ₅	43,800 lbs/day at 150 mg/L
Design TSS	67,200 lbs/day at 230 mg/L
Design TKN	7,640 lbs/day at 26 mg/L
Design NH ₃ -N	4,970 lbs/day at 17 mg/L
Design TP	1,170 lbs/day at 4 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

11.3 Effluent Permit Values

The current NPDES permit for the Valley Creek WWTP includes the following values (see Table 11-2), which define the level of treatment necessary for the new design. The average design flow is listed as 85 mgd and the average design BOD₅ loading as 141,780 lbs/day.

TABLE 11-2

Valley Creek WWTP Permit Limits

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	8.0	24.0	1.0	3.0
December-April	8.0	24.0	1.0	4.0

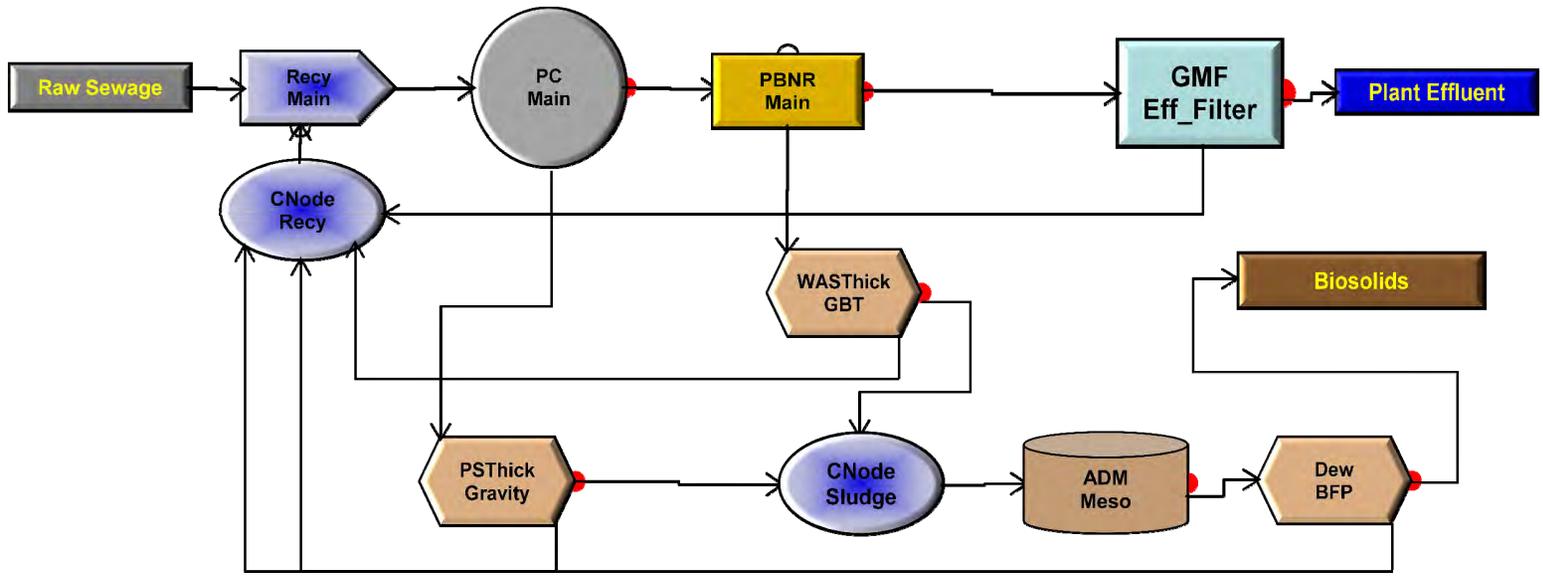
11.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Circular primary clarifiers with primary scum and sludge pumping
- Activated sludge secondary treatment, configured as a modified Ludzack-Ettinger process
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Deep bed granular media effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity primary sludge thickeners
- Centrifuge WAS thickeners and polymer system
- Internal recycle collection and pumping
- Anaerobic digestion and mixing system
- Effluent pump station
- Centrifuge dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 11-1).

FIGURE 11-1
Valley Creek WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 11-3).

TABLE 11-3

Valley Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	6
Capacity, each	35 mgd
Capacity, total	210 mgd
Flow Equalization	
Number	10
Volume, each	11 MG
Volume, total	110 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	4
Capacity, each	33.75 mgd
Capacity, total	135 mgd
Grit Removal	
Type	Vortex
Number	3
Capacity, each	45.0 mgd
Capacity, total	135 mgd
Primary Clarifiers	
Type	Circular
Number	4
Diameter, each	130 ft
Surface area, each	13,100 sf
Surface area, total	52,500 sf
Bioreactors (activated sludge process)	
Type	Plug flow
Number	10
Design SRT	13 days at 14°C
Design MLSS	2,800 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Mixed liquor recycle rate	250% of design flow rate
Volume, each	1.5 MG
Volume, total	15 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	6
Capacity, each	7,000 scfm
Capacity, total	42,000 scfm

TABLE 11-3

Valley Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Secondary Clarifiers	
Type	Circular
Number	8
Diameter, each	138 ft
Surface area, each	15,000 sf
Surface area, total	120,000 sf
Effluent Filters	
Type	Deep bed granular media
Number	22
Area, each	450 sf
Area, total	9,900 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	12
Banks per Channel	3
Design Transmittance	65%
Design Dose	40 mJ/cm ²
Primary Sludge Thickening	
Type	Gravity
Number	3
Diameter, each	45 ft
Surface area, each	1,590 sf
Surface area, total	4,770 sf
WAS Thickening	
Type	Centrifuge
Number	2
Capacity, each	500 gpm
Capacity, total	1,000 gpm
Sludge Stabilization	
Type	Anaerobic Digestion
Number	6
Mixing system	Mechanical pumping/jet mixing
Design SRT	22 days
Estimated Volatile Solids Reduction	43%
Volume, each	0.53 MG
Volume, total	3.2 MG
Digested Sludge Dewatering	
Type	Centrifuge
Number	2
Capacity, each	300 gpm
Capacity, total	600 gpm

TABLE 11-3

Valley Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Emergency Generators	
Number	3
Capacity, each	3100 kW
Capacity, total	9,300 kW

11.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (35 mgd) and under winter conditions, is summarized below (see Table 11-4).

TABLE 11-4

Valley Creek WWTP Predicted Effluent Quality*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.7
TSS	3.7
TKN	1.4
NH ₃ -N	0.1
TP	2.4

11.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 11-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix J at the end of this document.

TABLE 11-5
**Valley Creek WWTP (Reduced Flow Projection) Construction
 and Capital Cost Estimates**
*Opinions of Cost for Jefferson County, Alabama Wastewater
 Treatment Plants*

	Cost ^a (\$)
Construction Cost	282,260,000
Capital Cost	347,200,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.
4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
8. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
9. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
10. A location adjustment factor was used for local conditions in Birmingham, AL.
11. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
12. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
13. Operations building and maintenance building sizes were assumed.
14. No contingency was included.

Village Creek WWTP Modeling and Cost Opinion; Sized Based on Most Recent Flow Projections

12.1 Village Creek WWTP

The Village Creek WWTP NPDES #AL0023647 is a two-stage activated sludge facility with effluent filtration and UV disinfection, which serves the central part of Jefferson County. Village Creek consists of two plants: an older plant and a new plant. Currently, each plant is permitted to treat 30 mgd with a combined peak flow (bypassing biological treatment) of 280 mgd. Both plants are based on activated sludge treatment with intermediate and final clarifiers. Sludge handling consists of anaerobic digestion, centrifuge dewatering, and lime conditioning to make sure treatment meets Class B standards. The biosolids are then land applied at two County-leased reclamation sites.

The most recently completed flow projections (CDM, 2012a)) indicate that the maximum anticipated average daily flow for the Village Creek WWTP is only 38.48 mgd, which is much lower than the permitted flow. Additionally, the Energy and Process Optimization Study (Hazen & Sawyer, 2012a) recommended that the maximum throughput of the plant be limited to 143 mgd based on using the existing 90 MG of wet weather storage. Therefore, the plant was analyzed using these values with the results summarized below.

12.2 Modeling Flows and Load

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Village Creek WWTP* (Jefferson County, 2011b) and *Village Creek Wastewater Treatment Plant Waste Gas Energy Recover and Process Optimization Evaluation* (Hazen & Sawyer, 2012b). The values used in the process modeling are summarized in Table 12-1.

TABLE 12-1

Village Creek WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	38.48 mgd
Peak Design Flow	143.0 mgd
Design cBOD ₅	42,100 lbs/day at 131 mg/L
Design TSS	57,600 lbs/day at 179 mg/L
Design TKN	7,820 lbs/day at 24 mg/L
Design NH ₃ -N	5,100 lbs/day at 16 mg/L
Design TP	1,930 lbs/day at 6 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

12.3 Effluent Permit Values

The current NPDES permit for the Village Creek WWTP includes the following values (see Table 12-2), which define the level of treatment necessary for the new design. The average design flow is listed as 60 mgd and the average design BOD₅ loading as 140,112 lbs/day for the combined total of both plants.

TABLE 12-2

Village Creek WWTP Permit Limits

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	4.0	24.0	1.0	Report
December-April	6.0	24.0	1.0	Report

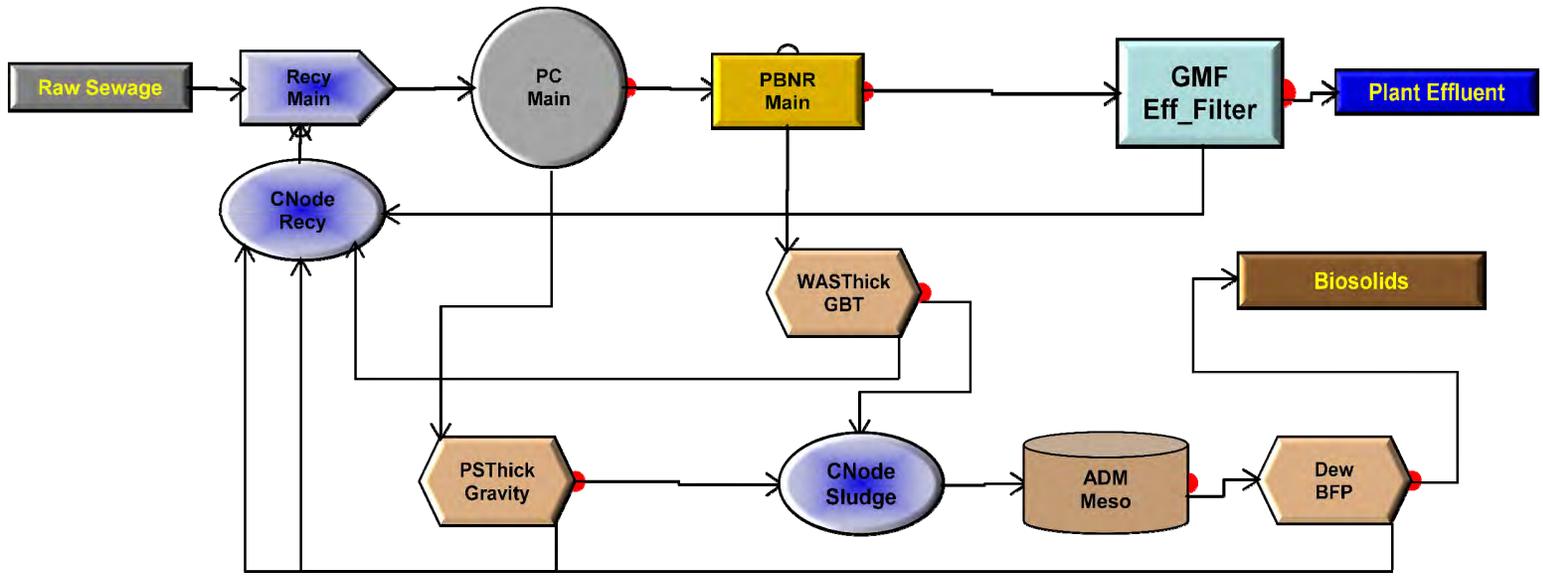
12.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Circular primary clarifiers with primary scum and sludge pumping
- Activated sludge secondary treatment, configured as a modified Ludzack-Ettinger process
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Deep bed granular media effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity primary sludge thickeners
- Centrifuge WAS thickeners and polymer system
- Internal recycle collection and pumping
- Anaerobic digestion and mixing system
- Effluent pump station
- Centrifuge dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 3-1).

FIGURE 12-1
 Village Creek WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 12-3).

TABLE 12-3

Village Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	6
Capacity, each	38.0 mgd
Capacity, total	228 mgd
Flow Equalization	
Number	20
Volume, each	4.5 MG
Volume, total	90 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	3
Capacity, each	48.0 mgd
Capacity, total	143 mgd
Grit Removal	
Type	Vortex
Number	3
Capacity, each	48.0 mgd
Capacity, total	143 mgd
Primary Clarifiers	
Type	Circular
Number	4
Diameter, each	129 ft
Surface area, each	13,000 sf
Surface area, total	52,000 sf
Bioreactors (activated sludge process)	
Type	Plug flow
Number	10
Design SRT	13 days at 14°C
Design MLSS	2,300 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Mixed liquor recycle rate	250% of design flow rate
Volume, each	1.75 MG
Volume, total	17.5 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	6

TABLE 12-3

Village Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Capacity, each	6,930 scfm
Capacity, total	41,580 scfm
Secondary Clarifiers	
Type	Circular
Number	6
Diameter, each	150 ft
Surface area, each	17,700 sf
Surface area, total	106,000 sf
Effluent Filters	
Type	Deep bed granular media
Number	26
Area, each	458 sf
Area, total	11,900 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	10
Banks per channel	4
Design Transmittance	65%
Design Dose	40 mJ/cm ²
Primary Sludge Thickening	
Type	Gravity
Number	3
Diameter, each	40 ft
Surface area, each	1,260 sf
Surface area, total	3,780 sf
WAS Thickening	
Type	Centrifuge
Number	3
Capacity, each	500 gpm
Capacity, total	1,500 gpm
Sludge Stabilization	
Type	Anaerobic Digestion
Number	6
Mixing system	Mechanical pumping/jet mixing
Design SRT	24 days
Estimated Volatile Solids Reduction	43%
Volume, each	0.53 MG
Volume, total	3.2 MG

TABLE 12-3

Village Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Digested Sludge Dewatering	
Type	Centrifuge
Number	2
Capacity, each	300 gpm
Capacity, total	600 gpm
Emergency Generators	
Number	3
Capacity, each	3100 kW
Capacity, total	9,300 kW

12.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (38 mgd) and under winter conditions, is summarized below (see Table 12-4).

TABLE 12-4

Village Creek WWTP Predicted Effluent Quality*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.7
TSS	3.7
TKN	1.3
NH ₃ -N	0.1
TP	4.5

12.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 12-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix K at the end of this document.

TABLE 12-5

Village Creek WWTP (Reduced Flow Projection) Construction and Capital Cost Estimates*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

	Cost ^a (\$)
Construction Cost	290,690,000
Capital Cost	357,570,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.
3. Backup power generators were assumed to run the full plant critical loads.
4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
8. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
9. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
10. A location adjustment factor was used for local conditions in Birmingham, AL.
11. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
12. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
13. Operations building and maintenance building sizes were assumed.
14. No contingency was included.

Five Mile Creek WWTP Modeling and Cost Opinion; Sized Based on Most Recent Flow Projections

13.1 Five Mile Creek WWTP

The Five Mile Creek WWTP NPDES #AL0026913 is a single-stage activated sludge facility with effluent filtration and UV disinfection, which serves the central part of Jefferson County. The plant is currently permitted to treat 30 mgd with a peak design flow of 56 mgd. The plant also includes 45 MG of wet weather storage. Sludge handling consists of aerobic digestion, gravity thickening, and sludge drying beds. The biosolids are then land applied at two County-leased reclamation sites.

The most recently completed flow projections (CDM, 2011a) indicate that the maximum anticipated average daily flow for the Five Mile Creek WWTP is only 11.04 mgd, which is much lower than the permitted flow. The maximum plant throughput is estimated at 20.5 mgd based on the original design peaking factors. The volume of wet weather storage has been reduced proportionally from 45 MG to 16.5 MG. Therefore, the plant was analyzed using these values with the results summarized below.

13.2 Modeling Flows and Loads

Process modeling influent flows and loads were developed based on information provided in the documents *2011 Municipal Water Pollution Annual Report for the Five Mile Creek WWTP* (Jefferson County, 2011c) and *County-Wide Biosolids Master Plan*, (CDM, 2011a). Limited data was available on influent characteristics other than cBOD₅, therefore, literature values were assumed for other influent parameters. The raw influent wastewater would generally be characterized as weak. The values used in the process modeling are summarized in Table 13-1.

TABLE 13-1

Five Mile Creek WWTP Process Modeling Flows and Loads

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Parameter	Value
Average Design Flow	11.0 mgd
Peak Design Flow	20.5 mgd
Design cBOD ₅	9,360 lbs/day at 102 mg/L
Design TSS	10,300 lbs/day at 112 mg/L
Design TKN	1,840 lbs/day at 20 mg/L
Design NH ₃ -N	1,100 lbs/day at 12 mg/L
Design TP	367 lbs/day at 4 mg/L

Assumptions:

1. The average design flow is defined as the annual average day flow; design loads are estimated as maximum month loads based on development of maximum month:average day peaking factors either included in, or derived from, the referenced documents.
2. VSS:TSS ratio is assumed to be 80 percent.
3. Alkalinity data was not available; therefore, it was assumed to be non-limiting from a process perspective.
4. Process modeling was performed under assumed winter conditions; the cold water temperature used was 14°C, which is an assumed value based on similar locations.

13.3 Effluent Permit Values

The current NPDES permit for the Five Mile Creek WWTP includes the following values (see Table 13-2), which define the level of treatment necessary for the new design. The average design flow is listed as 30 mgd and the average design BOD₅ loading as 50,040 lbs/day.

TABLE 13-2

Five Mile Creek WWTP Permit Limits

Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

Months	cBOD ₅ (mg/L)	TSS (mg/L)	NH ₃ -N (mg/L)	TKN (mg/L)
May-November	6.0	30.0	2.0	4.0
December-April	7.0	30.0	2.5	5.0

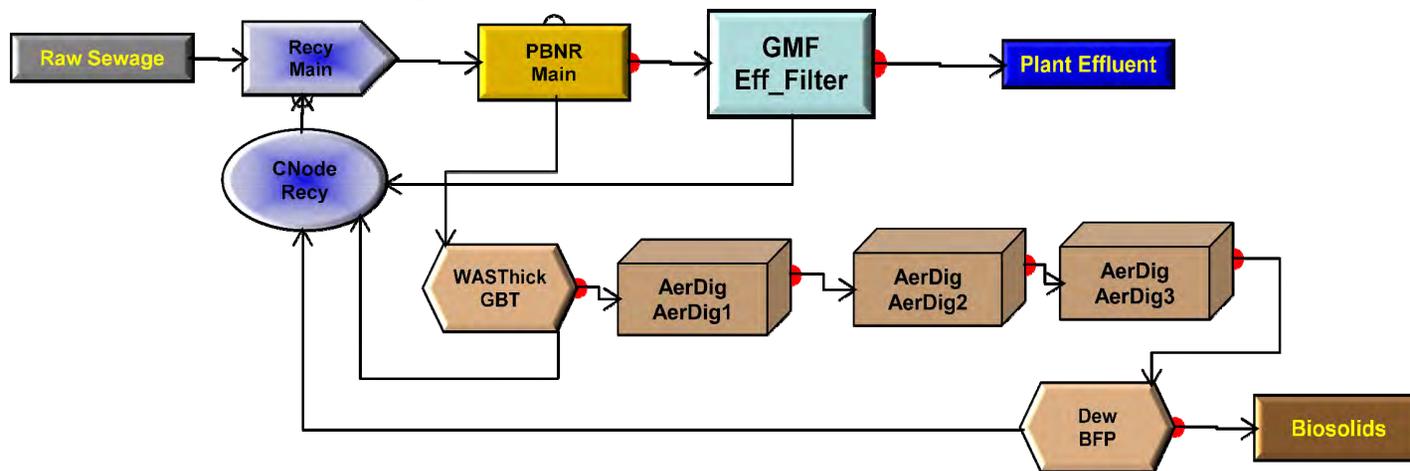
13.4 Proposed Facilities

The facilities included in the proposed design generally include the following components:

- Influent pump station
- Flow equalization basins
- Influent fine screens and grit removal
- Activated sludge secondary treatment
- Fine bubble aeration system within the activated sludge process
- Multi-stage centrifugal process aeration blowers
- Circular secondary clarifiers with secondary scum pumping
- RAS/WAS pumping system
- Filter feed pump station
- Deep bed granular media effluent filters
- Effluent UV disinfection
- Cascade post aeration
- Gravity Belt WAS thickeners and polymer system
- Internal recycle collection and pumping
- Aerobic digestion
- Centrifuge dewatering of digested sludge with polymer system
- Plant water system
- Emergency generators
- Operations building
- Maintenance building

A process flow diagram of the proposed facilities, from our process model Pro2D, is provided below (see Figure 13-1).

FIGURE 13-1
Five Mile Creek WWTP Process Flow Diagram



A design data summary of the proposed major treatment facilities is provided below (see Table 13-3). We would commonly use primary clarifiers and anaerobic digestion on a plant of this size, but because of the weak wastewater, it was decided to forego primary clarification, which makes anaerobic digestion difficult, and use aerobic digestion.

TABLE 13-3

Five Mile Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Influent Pump Station	
Pump type	Centrifugal
Number	4
Capacity, each	11.0 mgd
Capacity, total	44.0 mgd
Flow Equalization	
Number	3
Volume, each	5.5 MG
Volume, total	16.5 MG
Influent Screens	
Screen type	Perforated plate, chain driven
Screen opening	6 mm
Number	2
Capacity, each	10.25 mgd
Capacity, total	20.5 mgd
Grit Removal	
Type	Vortex
Number	2
Capacity, each	10.25 mgd
Capacity, total	20.5 mgd
Bioreactors (activated sludge process)	
Type	Plug flow
Number	3
Design SRT	10 days at 14°C
Design MLSS	3,100 mg/L
Design dissolved oxygen concentration	2.0 mg/L
Volume, each	1.2 MG
Volume, total	3.6 MG
Process Aeration Blowers	
Type	Multi-stage centrifugal
Number	4
Capacity, each	2,850 scfm
Capacity, total	11,400 scfm
Secondary Clarifiers	
Type	Circular
Number	3
Diameter, each	107 ft

TABLE 13-3

Five Mile Creek WWTP Design Data Summary*Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants*

Facility/Component	Parameter
Surface area, each	9,000 sf
Surface area, total	27,000 sf
Effluent Filters	
Type	Deep bed granular media
Number	18
Area, each	188 sf
Area, total	3,380 sf
Effluent UV	
Type	Low Pressure, High Output
Channels	2
Banks per Channel	4
Design Transmittance	65%
Design Dose	40 mJ/cm ²
WAS Thickening	
Type	Gravity Belt
Number	2
Size	2 m
Capacity, each	300 gpm
Capacity, total	600 gpm
Sludge Stabilization	
Type	Aerobic Digestion
Number	2 trains of 3 digesters in series
Aeration system	Coarse bubble diffused aeration
Design SRT	33 days
Volume, each	0.125 MG
Volume, total	0.75 MG
Digested Sludge Dewatering	
Type	Centrifuge
Number	2
Capacity, each	100 gpm
Capacity, total	200 gpm
Emergency Generators	
Number	1
Capacity, each	3100 kW
Capacity, total	3100 kW

13.5 Predicted Performance

The predicted performance of the proposed facilities, at the design condition (11 mgd) and under winter conditions, is summarized below (see Table 13-4).

TABLE 13-4

Five Mile Creek WWTP Predicted Effluent Quality
Opinions of Cost for Jefferson County, Alabama
Wastewater Treatment Plants

Pollutant Parameter	Concentration (mg/L)
cBOD ₅	1.4
TSS	3.2
TKN	1.0
NH ₃ -N	0.1
TP	2.8

13.6 Cost Opinion

Cost estimates were prepared using the CPES. CPES is a cost estimating tool used to generate construction estimates at the conceptual level of design, using general arrangement plans for unit processes from past projects. The system generates a project-specific estimate using sizing input information that is particular to each project.

The estimate was prepared based on information available at the time of preparation, without the benefit of construction documents, and is, therefore, considered to be at the conceptual level. As such, the expected accuracy range is +50 percent/-30 percent. The estimated construction and capital costs for this facility are summarized in Table 13-5 based on 2012 dollars. Capital costs include allowances for non-construction costs such as permitting, engineering, services during construction, commissioning, and startup, in addition to the construction costs. A more detailed summary of estimated project costs is included as Appendix L at the end of this document.

TABLE 13-5

Five Mile Creek WWTP (Reduced Flow Projection) Construction and Capital Cost Estimates
Opinions of Cost for Jefferson County, Alabama Wastewater Treatment Plants

	Cost ^a (\$)
Construction Cost	80,410,000
Capital Cost	98,930,000

^a 2012 basis

The following assumptions were used in the preparation of the cost estimates:

1. Plant structures depth of burial was assumed, since a plant hydraulic profile was not prepared. Generally, it was assumed that the last structure (disinfection) was fully in ground, and the first treatment structure (headworks) was fully above ground, allowing gravity flow through the plant since the sites are generally flat. Influent pump stations were assumed to have a depth similar to the existing actual structure. Influent equalization (if included) was assumed to be above ground, with gravity flow back to the influent pump station, to return the stored flow to treatment.
2. UV disinfection was the method used for all facilities.

3. Backup power generators were assumed to run the full plant critical loads.
4. Pump head pressures were estimated for each unit process.
5. Cascade post aeration was the method used for aeration before final discharge.
6. No odor control facilities were included, since the existing facilities do not generally have odor control.
7. Structure wall thicknesses were estimated using typical guidelines based on depth of water within the structure.
8. Overall site work, plant computer system, yard electrical, and yard piping were estimated as a typical percentage of construction cost.
9. Contractor markups were estimated as: 10 percent overhead, 5 percent profit, and 5 percent for mobilization/bonds/insurance.
10. A location adjustment factor was used for local conditions in Birmingham, AL.
11. Allowances based on experience and general knowledge of the sites were included for items such as rock excavation, pile foundations, dewatering, architectural treatments, and shoring.
12. Non-construction costs (permitting, engineering, services during construction, commissioning, and startup) were estimated as a typical percentage of construction costs.
13. Operations building and maintenance building sizes were assumed.
14. No contingency was included.

SECTION 14

References

- CDM. 2012. *Trussville WWTP Phase I & II TMDL Improvements Project Preliminary Design Report*.
- CDM. 2011a. *County-Wide Biosolids Master Plan*.
- CDM. 2011b. *Cahaba WWTP TMDL Improvements Project Preliminary Design Report*.
- Hazen & Sawyer. 2012a. *Valley Creek Wastewater Treatment Plant Energy and Process Optimization Study*.
- Hazen & Sawyer. 2012b. *Village Creek Wastewater Treatment Plant Energy and Process Optimization Study*.
- Jefferson County. 2011a. *2011 Municipal Water Pollution Annual Report for the Valley Creek WWTP*.
- Jefferson County. 2011b. *2011 Municipal Water Pollution Annual Report for the Village Creek WWTP*.
- Jefferson County. 2011c. *2011 Municipal Water Pollution Annual Report for the Five Mile Creek WWTP*.
- Jefferson County. 2011d. *2011 Municipal Water Pollution Annual Report for the Cahaba River WWTP*.
- Jefferson County. 2011e. *2011 Municipal Water Pollution Annual Report for the Leeds WWTP*.
- Jefferson County. 2011f. *2011 Municipal Water Pollution Annual Report for the Turkey Creek WWTP*.
- Jefferson County. 2011g. *2011 Municipal Water Pollution Annual Report for the Trussville WWTP*.
- Jefferson County. 2011h. *2011 Municipal Water Pollution Annual Report for the Prudes Creek WWTP*.
- Jefferson County. 2011i. *2011 Municipal Water Pollution Annual Report for the Warrior WWTP*.

Appendix A
Valley Creek Opinion of Cost Summary

	A	B	C	D	E
1	CH2M HILL Parametric Cost Estimating System (CPES)				
2	FACILITIES DESIGN & CONSTRUCTION COST MODULE				
3					
4					
5	File Version: 8/16/2012 Click for CPES To Concrete Wall Thickness Help Summary Matrix To Unit Cost Database				
6	Project Capacity: >>>	85.00	Project Unit: >>>	mga	(For example: MGD, HP, GPM...)
7					
8	Project Name:	Valley WWTP			
9	Project Number:	458937			
10	Project Manager:	Ken McGraw			
11	Estimator:	Randy Boe			
12	Project Description:	Jefferson County WW Asset Estimate			Roundup to the nearest:
13	Project Location (City):	Birmingham			\$10,000
14	Project Location (State):	ALABAMA			
15	Project Location (Country):	USA			
16	Construction Start (Month):	Jan			<input type="checkbox"/> This Report is for INTERNAL Distribution
17	Construction Start (Year):	2012			
18	Construction Duration (months):	36			<input checked="" type="checkbox"/> This Report is for EXTERNAL Distribution
19	Mid-Point of Construction:	Jul/2013			
20					
21	Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT		Cost
22		Yes	Submersible IPS: IPS		\$17,510,000
23		Yes	Screening and Grit: Headworks		\$7,150,000
24		Yes	Primary Sludge PS: Main		\$1,360,000
25		Yes	Round PC: Main		\$12,290,000
26		Yes	Aeration Basin: Main		\$31,450,000
27		Yes	Blowers: Main		\$7,020,000
28		Yes	Round SC: Main		\$17,110,000
29		Yes	RAS WAS PS: Main		\$7,740,000
30		Yes	Filters: Eff Filter		\$25,440,000
31		Yes	Fermenter: Gravity		\$6,130,000
32		Yes	Centrifuge Thick: GBT		\$8,720,000
33		Yes	Silo AnDig: Meso		\$34,040,000
34		Yes	Centrifuge Dew: BFP		\$5,970,000
35		Yes	Aerobic Digester: Blend Tank		\$1,080,000
36		Yes	O&M Building: Ops Bldg		\$1,770,000
37		Yes	LPHO UV: UV Disinf		\$15,540,000
38		Yes	Concrete Clearwell: Inf EQ		\$57,800,000
39		Yes	U.D. Facility: Post AB		\$570,000
40		Yes	Submersible IPS: Eff PS		\$7,580,000
41		Yes	O&M Building: Maint Bldg		\$1,260,000
42		Yes	Emergency Generator: Stdby Gen		\$13,930,000
43		Yes	Vertical Turbine PS: W3 System		\$1,380,000
44		Yes	Submersible IPS: Plnt Drain		\$1,140,000
45					
46	SUBTOTAL - PROJECT COST				\$283,980,000
47					
48	ADDITIONAL PROJECT COSTS:				
49	Demolition		0%		\$0
50	Overall Sitework		5%		\$14,200,000
51	Plant Computer System		1%		\$2,840,000
52	Yard Electrical		5%		\$14,200,000
53	Yard Piping		12%		\$34,080,000
54	UD #1 Default Description		0%		\$0
55	UD #2 Default Description		0%		\$0
56	UD #3 Default Description		0%		\$0
57	SUBTOTAL with Additional Project Costs				\$349,300,000
58					
59	TAX:		0.00%	\$349,300,000	\$0
60	SUBTOTAL with Tax				\$349,300,000
61					
62	CONTRACTOR MARKUPS:				
63	Overhead		10%	\$349,300,000	\$34,930,000
64	Subtotal				\$384,230,000

	A	B	C	D	E
65	Profit		5%	\$384,230,000	\$19,220,000
66	<i>Subtotal</i>				\$403,450,000
67	Mob/Bonds/Insurance		5%	\$403,450,000	\$20,180,000
68	<i>Subtotal</i>				\$423,630,000
69	Contingency		0%	\$423,630,000	\$0
70	SUBTOTAL with Markups				\$423,630,000
71					
72	ESCALATION (to Mid-Point of Construction)		4.6%	\$423,630,000	\$19,490,000
73	SUBTOTAL with Escalation				\$443,120,000
74					
75	LOCATION ADJUSTMENT FACTOR		87.4	\$443,120,000	\$387,290,000
76	SUBTOTAL - with Local Adjustment Factor				\$387,290,000
77					
78	RED FLAGS:				
79	1	Rock Excavation			\$10,000,000
80	2	Pile Foundations			\$2,500,000
81	3	Seismic Foundations			
82	4	Dewatering Conditions			\$3,500,000
83	5	Wetlands Mitigation			
84	6	Weather Impacts			
85	7	Depth of Structures			\$5,000,000
86	8	Local Building Code Restrictions			
87	9	Coatings or Finishes			
88	10	Building or Architectural Considerations			\$5,000,000
89	11	Client Material Preferences			
90	12	Client Equipment Preferences			
91	13	Piping Galleries, Piping Trenches, Piping Racks			
92	14	Yard Piping Complexity			
93	15	Existing Site Utilities (New, Retrofit, and Complexity)			
94	16	I & C Automation (New or Retrofit)			
95	17	Electrical Feed (New or Retrofit)			
96	18	Electrical Distribution			
97	19	Shoring			\$8,000,000
98	20	Contamination			
99	21	User Defined Red Flag 1			
100	22	User Defined Red Flag 2			
101	23	User Defined Red Flag 3			
102	24	User Defined Red Flag 4			
103	25	User Defined Red Flag 5			
104	26	User Defined Red Flag 6			
105	27	User Defined Red Flag 7			
106	TOTAL - RED FLAGS				\$34,000,000
107					
108	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$421,290,000
109					
110	MARKET ADJUSTMENT FACTOR		0%	\$421,290,000	\$0
111	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$421,290,000
112	Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:				
113	Name of Process Reviewer			Goodwin	Click for Rev
114	Name of Estimator Reviewer			Bredehoeft	
115	MAXIMUM CONSTRUCTION COST				\$421,290,000
116					
117	NON-CONSTRUCTION COSTS:				
118	Permitting		2%	\$421,290,000	\$8,430,000
119	Engineering		10%	\$421,290,000	\$42,130,000
120	Services During Construction		8%	\$421,290,000	\$33,710,000
121	Commissioning & Startup		3%	\$421,290,000	\$12,640,000
122	Land / ROW		0%	\$421,290,000	\$0
123	Legal / Admin		0%	\$421,290,000	\$0
124	Other Default Description		0%	\$421,290,000	\$0
125	SUBTOTAL - Non-Construction Costs				\$96,910,000
126					
127	TOTAL - CAPITAL COST				\$518,200,000
128					
129	Currency Conversion of TOTAL CAPITAL COST:				
130		Currency	Unit of Measure	Conversion Rate	Converted Amount
131		None	U.S.Dollar	1	518,200,000

Appendix B

Village Creek Opinion of Cost Summary

CH2M HILL Parametric Cost Estimating System (CPES)

FACILITIES DESIGN & CONSTRUCTION COST MODULE

File Version: 9/12/201 **Click for CPES** **To Concrete Wall Thickness Help** **t Summary Matri** **To Unit Cost Database**

Project Capacity: >>> **60.00** **Project Unit: >>>** **mga** *(For example: MGD, HP, GPM...)*

Project Name: Village WWTP
Project Number: 458937
Project Manager: Ken McGraw
Estimator: Jamie Zivich
Project Description: Jefferson County WW Asset Estimate **Roundup to the nearest:**
Project Location (City): Birmingham **\$10,000**
Project Location (State): ALABAMA
Project Location (Country): USA
Construction Start (Month): Jan
Construction Start (Year): 2012
Construction Duration (months): 36
Mid-Point of Construction: Jul/2013

This Report is for INTERNAL Distribution
 This Report is for EXTERNAL Distribution

Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT	Cost
22	Yes	Submersible IPS: Inf PS	\$20,390,000
23	Yes	Screening and Grit: Headworks	\$6,130,000
24	Yes	Primary Sludge PS: Main	\$1,250,000
25	Yes	Round PC: Main	\$8,560,000
26	Yes	Aeration Basin: Main	\$23,110,000
27	Yes	Blowers: Main	\$5,150,000
28	Yes	Round SC: Main	\$14,480,000
29	Yes	RAS WAS PS: Main	\$7,200,000
30	Yes	Filters: Eff Filter	\$23,450,000
31	Yes	Fermenter: Gravity	\$5,150,000
32	Yes	Silo AnDig: Meso	\$25,110,000
33	Yes	O&M Building: Ops Bldg	\$1,770,000
34	Yes	U.D. Facility: Post AB	\$540,000
35	Yes	LPHO UV: Disin	\$15,540,000
36	Yes	Concrete Clearwell: Inf EQ	\$43,200,000
37	Yes	Submersible IPS: Eff PS	\$6,970,000
38	Yes	Aerobic Digester: Blend Tank	\$810,000
39	Yes	Centrifuge Thick: CentrThick	\$8,680,000
40	Yes	O&M Building: Maint Bldg	\$1,260,000
41	Yes	Emergency Generator: Gen	\$13,190,000
42	Yes	Centrifuge Dew: Centrifuge	\$5,541,306
43	Yes	Submersible IPS: Plnt Drain	\$1,110,000
44	Yes	Vertical Turbine PS: W3 System	\$1,250,000
45			
46	SUBTOTAL - PROJECT COST		\$239,841,306
47			
48	ADDITIONAL PROJECT COSTS:		

	A	B	C	D	E
49	Demolition		0.0%		\$0
50	Overall Sitework		8.0%		\$19,190,000
51	Plant Computer System		1.0%		\$2,400,000
52	Yard Electrical		5.0%		\$12,000,000
53	Yard Piping		12.0%		\$28,790,000
54	UD #1 Default Description		0.0%		\$0
55	UD #2 Default Description		0.0%		\$0
56	UD #3 Default Description		0.0%		\$0
57	SUBTOTAL with Additional Project Costs				\$302,221,306
58					
59	TAX:		0.00%	\$302,221,306	\$0
60	SUBTOTAL with Tax				\$302,221,306
61					
62	CONTRACTOR MARKUPS:				
63	Overhead		10.0%	\$302,221,306	\$30,230,000
64	Subtotal				\$332,451,306
65	Profit		5.0%	\$332,451,306	\$16,630,000
66	Subtotal				\$349,081,306
67	Mob/Bonds/Insurance		5.0%	\$349,081,306	\$17,460,000
68	Subtotal				\$366,541,306
69	Contingency		0.0%	\$366,541,306	\$0
70	SUBTOTAL with Markups				\$366,541,306
71					
72	ESCALATION (to Mid-Point of Construction)		4.6%	\$366,541,306	\$16,870,000
73	SUBTOTAL with Escalation				\$383,411,306
74					
75	LOCATION ADJUSTMENT FACTOR		87.4	\$383,411,306	\$335,110,000
76	SUBTOTAL - with Local Adjustment Factor				\$335,110,000
77					
78	RED FLAGS:				
79	1	Rock Excavation			\$10,000,000
80	2	Pile Foundations			\$2,500,000
81	3	Seismic Foundations			
82	4	Dewatering Conditions			\$3,500,000
83	5	Wetlands Mitigation			
84	6	Weather Impacts			
85	7	Depth of Structures			\$5,000,000
86	8	Local Building Code Restrictions			
87	9	Coatings or Finishes			
88	10	Building or Architectural Considerations			\$5,000,000
89	11	Client Material Preferences			
90	12	Client Equipment Preferences			
91	13	Piping Galleries, Piping Trenches, Piping Racks			
92	14	Yard Piping Complexity			
93	15	Existing Site Utilities (New, Retrofit, and Complexity)			
94	16	I & C Automation (New or Retrofit)			
95	17	Electrical Feed (New or Retrofit)			
96	18	Electrical Distribution			
97	19	Shoring			\$8,000,000
98	20	Contamination			

	A	B	C	D	E
99	21	User Defined Red Flag 1			
100	22	User Defined Red Flag 2			
101	23	User Defined Red Flag 3			
102	24	User Defined Red Flag 4			
103	25	User Defined Red Flag 5			
104	26	User Defined Red Flag 6			
105	27	User Defined Red Flag 7			
106	TOTAL - RED FLAGS				\$34,000,000
107					
108	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$369,110,000
109					
110	MARKET ADJUSTMENT FACTOR		0%	\$369,110,000	\$0
111	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$369,110,000
112	Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:				
113	Name of Process Reviewer			Goodwin	Click for Rev
114	Name of Estimator Reviewer			Bredehoeft	
115	MAXIMUM CONSTRUCTION COST				\$369,110,000
116					
117	NON-CONSTRUCTION COSTS:				
118	Permitting		2.0%	\$369,110,000	\$7,390,000
119	Engineering		10.0%	\$369,110,000	\$36,920,000
120	Services During Construction		8.0%	\$369,110,000	\$29,530,000
121	Commissioning & Startup		3.0%	\$369,110,000	\$11,080,000
122	Land / ROW		0.0%	\$369,110,000	\$0
123	Legal / Admin		0.0%	\$369,110,000	\$0
124	Other Default Description		0.0%	\$369,110,000	\$0
125	SUBTOTAL - Non-Construction Costs				\$84,920,000
126					
127	TOTAL - CAPITAL COST				\$454,030,000
128					
129	Currency Conversion of TOTAL CAPITAL COST:				
130		Currency	Unit of Measure	Conversion Rate	Converted Amount
131		None	U.S.Dollar	1	454,030,000

Appendix C
Five Mile Creek Opinion of Cost Summary

Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT	Cost
22	Yes	Submersible IPS: Inf PS	\$6,220,000
23	Yes	Screening and Grit: Headworks	\$3,880,000
24	Yes	Aeration Basin: Main	\$8,040,000
25	Yes	Blowers: Main	\$5,640,000
26	Yes	Round SC: Main	\$6,720,000
27	Yes	RAS WAS PS: Main	\$2,820,000
28	Yes	Filters: Main	\$13,440,000
29	Yes	GBT: GBT	\$3,740,000
30	Yes	Aerobic Digester: AerDiq1	\$1,880,000
31	Yes	O&M Building: Ops Bldg	\$1,770,000
32	Yes	O&M Building: Maint Bldg	\$1,260,000
33	Yes	Emergency Generator: Em Gen	\$3,870,000
34	Yes	Concrete Clearwell: Inf EQ	\$18,410,000
35	Yes	Submersible IPS: Filter PS	\$3,340,000
36	Yes	U.D. Facility: Post Aer	\$250,000
37	Yes	Aerobic Digester: AerDiq2	\$1,400,000
38	Yes	Aerobic Digester: AerDiq3	\$1,420,000
39	Yes	LPHO UV: Disinf	\$8,230,000
40	Yes	Centrifuge Dew: Centrifuge	\$3,110,000
41	Yes	Submersible IPS: Plnt Drain	\$820,000
42	Yes	Vertical Turbine PS: W3 System	\$950,000
44	SUBTOTAL - PROJECT COST		\$97,210,000
46	ADDITIONAL PROJECT COSTS:		
47	Demolition	0.0%	\$0
48	Overall Sitework	5.0%	\$4,870,000
49	Plant Computer System	1.0%	\$980,000
50	Yard Electrical	5.0%	\$4,870,000
51	Yard Piping	12.0%	\$11,670,000
52	UD #1 Default Description	0.0%	\$0
53	UD #2 Default Description	0.0%	\$0
54	UD #3 Default Description	0.0%	\$0
55	SUBTOTAL with Additional Project Costs		\$119,600,000
57	TAX:	0.00%	\$119,600,000
58	SUBTOTAL with Tax		\$119,600,000
60	CONTRACTOR MARKUPS:		
61	Overhead	10.0%	\$11,960,000
62	Subtotal		\$131,560,000
63	Profit	5.0%	\$6,580,000
64	Subtotal		\$138,140,000

	A	B	C	D	E
65	Mob/Bonds/Insurance		5.0%	\$138,140,000	\$6,910,000
66	Subtotal				\$145,050,000
67	Contingency		0.0%	\$145,050,000	\$0
68	SUBTOTAL with Markups				\$145,050,000
69					
70	ESCALATION (to Mid-Point of Construction		3.8%	\$145,050,000	\$5,520,000
71	SUBTOTAL with Escalation				\$150,570,000
72					
73	LOCATION ADJUSTMENT FACTOR		87.4	\$150,570,000	\$131,600,000
74	SUBTOTAL - with Local Adjustment Factor				\$131,600,000
75					
76	RED FLAGS:				
77	1	Rock Excavation			\$5,000,000
78	2	Pile Foundations			\$1,500,000
79	3	Seismic Foundations			
80	4	Dewatering Conditions			\$2,000,000
81	5	Wetlands Mitigation			
82	6	Weather Impacts			
83	7	Depth of Structures			\$1,500,000
84	8	Local Building Code Restrictions			
85	9	Coatings or Finishes			
86	10	Building or Architectural Considerations			\$2,000,000
87	11	Client Material Preferences			
88	12	Client Equipment Preferences			
89	13	Piping Galleries, Piping Trenches, Piping Racks			
90	14	Yard Piping Complexity			
91	15	Existing Site Utilities (New, Retrofit, and Complexity)			
92	16	I & C Automation (New or Retrofit)			
93	17	Electrical Feed (New or Retrofit)			
94	18	Electrical Distribution			
95	19	Shoring			\$2,500,000
96	20	Contamination			
97	21	User Defined Red Flag 1			
98	22	User Defined Red Flag 2			
99	23	User Defined Red Flag 3			
100	24	User Defined Red Flag 4			
101	25	User Defined Red Flag 5			
102	26	User Defined Red Flag 6			
103	27	User Defined Red Flag 7			
104	TOTAL - RED FLAGS				\$14,500,000
105					
106	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$146,100,000
107					
108	MARKET ADJUSTMENT FACTOR		0%	\$146,100,000	\$0
109	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$146,100,000
110	Your CPES Estimate MUST be reviewed by a Process person AND an Estimator:				
111	Name of Process Reviewer			Goodwin	Click for Rev
112	Name of Estimator Reviewer			Bredehoeft	
113	MAXIMUM CONSTRUCTION COST				\$146,100,000
114					
115	NON-CONSTRUCTION COSTS:				
116	Permitting		2.0%	\$146,100,000	\$2,930,000
117	Engineering		10.0%	\$146,100,000	\$14,610,000
118	Services During Construction		8.0%	\$146,100,000	\$11,690,000
119	Commissioning & Startup		3.0%	\$146,100,000	\$4,390,000
120	Land / ROW		0.0%	\$146,100,000	\$0
121	Legal / Admin		0.0%	\$146,100,000	\$0
122	Other Default Description		0.0%	\$146,100,000	\$0
123	SUBTOTAL - Non-Construction Costs				\$33,620,000
124					
125	TOTAL - CAPITAL COST				\$179,720,000
126					
127	Currency Conversion of TOTAL CAPITAL COST:				
128		Currency	Unit of Measure	Conversion Rate	Converted Amount
129		None	U.S.Dollar	1	179,720,000

Appendix D
Cahaba River Opinion of Cost Summary

A	B	C	D	E
CH2M HILL Parametric Cost Estimating System (CPES)				
FACILITIES DESIGN & CONSTRUCTION COST MODULE				
<p>File Version: 8/16/201 Click for CPES To Concrete Wall Thickness Help Summary Matrix To Unit Cost Database</p>				
Project Capacity: >>>	12.00	Project Unit: >>>	mga	(For example: MGD, HP, GPM...)
Project Name:	Cahaba WWTP			
Project Number:	458937			
Project Manager:	Ken McGraw			
Estimator:	Randy Boe			
Project Description:	Jefferson County WW Asset Estimate			Roundup to the nearest:
Project Location (City):	Birmingham			\$10,000
Project Location (State):	ALABAMA			
Project Location (Country):	USA			
Construction Start (Month):	Jan			<input type="checkbox"/> This Report is for INTERNAL Distribution
Construction Start (Year):	2012			
Construction Duration (months):	30			<input checked="" type="checkbox"/> This Report is for EXTERNAL Distribution
Mid-Point of Construction:	Apr/2013			
Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT		Cost
22	Yes	Submersible IPS: IPS		\$9,500,000
23	Yes	Screening and Grit: Headworks		\$3,010,000
24	Yes	Primary Sludge PS: Main		\$630,000
25	Yes	Round PC: Main		\$2,570,000
26	Yes	Aeration Basin: Main		\$5,740,000
27	Yes	Blowers: Main		\$2,330,000
28	Yes	Round SC: Main		\$2,940,000
29	Yes	RAS WAS PS: Main		\$1,400,000
30	Yes	Filters: Eff Filter		\$6,780,000
31	Yes	Fermenter: Gravity		\$3,110,000
32	Yes	GBT: GBT		\$3,400,000
33	Yes	Silo AnDig: Meso		\$12,520,000
34	Yes	Liquid Chemical: DEW_FC		\$310,000
35	Yes	Centrifuge Dew: BFP		\$2,670,000
36	Yes	Aerobic Digester: Blend Tank		\$620,000
37	Yes	O&M Building: Ops Bldg		\$1,770,000
38	Yes	O&M Building: Maint Bldg		\$1,260,000
39	Yes	U.D. Facility: Post Aer		\$80,000
40	Yes	In-Plant PS: Filter Feed		\$1,250,000
41	Yes	Concrete Clearwell: Inf EQ		\$11,040,000
42	Yes	Emergency Generator: Stdby Gen		\$1,220,000
43	Yes	LPHO UV: UV Disinf		\$3,350,000
44	Yes	Liquid Chemical: SC Chem		\$340,000
45	Yes	Submersible IPS: Plnt Drain		\$720,000
46	Yes	Vertical Turbine PS: W3 System		\$840,000
47				
48	SUBTOTAL - PROJECT COST			\$79,400,000
49				
50	ADDITIONAL PROJECT COSTS:			
51	Demolition	0%		\$0
52	Overall Sitework	8%		\$6,360,000
53	Plant Computer System	1%		\$800,000
54	Yard Electrical	8%		\$6,360,000
55	Yard Piping	12%		\$9,530,000
56	UD #1 Default Description	0%		\$0
57	UD #2 Default Description	0%		\$0
58	UD #3 Default Description	0%		\$0
59	SUBTOTAL with Additional Project Costs			\$102,450,000
60				
61	TAX:	0.00%	\$102,450,000	\$0
62	SUBTOTAL with Tax			\$102,450,000
63				
64	CONTRACTOR MARKUPS:			

	A	B	C	D	E
65	Overhead		10%	\$102,450,000	\$10,250,000
66	<i>Subtotal</i>				\$112,700,000
67	Profit		5%	\$112,700,000	\$5,640,000
68	<i>Subtotal</i>				\$118,340,000
69	Mob/Bonds/Insurance		5%	\$118,340,000	\$5,920,000
70	<i>Subtotal</i>				\$124,260,000
71	Contingency		0%	\$124,260,000	\$0
72	SUBTOTAL with Markups				\$124,260,000
73					
74	ESCALATION (to Mid-Point of Construction		3.8%	\$124,260,000	\$4,730,000
75	SUBTOTAL with Escalation				\$128,990,000
76					
77	LOCATION ADJUSTMENT FACTOR		87.4	\$128,990,000	\$112,740,000
78	SUBTOTAL - with Local Adjustment Factor				\$112,740,000
79					
80	RED FLAGS:				
81	1	Rock Excavation			\$3,000,000
82	2	Pile Foundations			\$1,000,000
83	3	Seismic Foundations			
84	4	Dewatering Conditions			\$1,500,000
85	5	Wetlands Mitigation			
86	6	Weather Impacts			
87	7	Depth of Structures			\$1,000,000
88	8	Local Building Code Restrictions			
89	9	Coatings or Finishes			
90	10	Building or Architectural Considerations			\$2,000,000
91	11	Client Material Preferences			
92	12	Client Equipment Preferences			
93	13	Piping Galleries, Piping Trenches, Piping Racks			
94	14	Yard Piping Complexity			
95	15	Existing Site Utilities (New, Retrofit, and Complexity)			
96	16	I & C Automation (New or Retrofit)			
97	17	Electrical Feed (New or Retrofit)			
98	18	Electrical Distribution			
99	19	Shoring			\$1,000,000
100	20	Contamination			
101	21	User Defined Red Flag 1			
102	22	User Defined Red Flag 2			
103	23	User Defined Red Flag 3			
104	24	User Defined Red Flag 4			
105	25	User Defined Red Flag 5			
106	26	User Defined Red Flag 6			
107	27	User Defined Red Flag 7			
108	TOTAL - RED FLAGS				\$9,500,000
109					
110	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$122,240,000
111					
112	MARKET ADJUSTMENT FACTOR		0%	\$122,240,000	\$0
113	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$122,240,000
114	Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:				
115	Name of Process Reviewer			Goodwin	Click for Rev
116	Name of Estimator Reviewer			Bredehoeft	
117	MAXIMUM CONSTRUCTION COST				\$122,240,000
118					
119	NON-CONSTRUCTION COSTS:				
120	Permitting		2%	\$122,240,000	\$2,450,000
121	Engineering		10%	\$122,240,000	\$12,230,000
122	Services During Construction		8%	\$122,240,000	\$9,780,000
123	Commissioning & Startup		3%	\$122,240,000	\$3,670,000
124	Land / ROW		0%	\$122,240,000	\$0
125	Legal / Admin		0%	\$122,240,000	\$0
126	Other Default Description		0%	\$122,240,000	\$0
127	SUBTOTAL - Non-Construction Costs				\$28,130,000
128					
129	TOTAL - CAPITAL COST				\$150,370,000
130					
131	Currency Conversion of TOTAL CAPITAL COST:				
132		Currency	Unit of Measure	Conversion Rate	Converted Amount
133		None	U.S.Dollar	1	150,370,000

Appendix E
Leeds Opinion of Cost Summary

Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT	Cost
22	Yes	Submersible IPS: Inf PS	\$2,900,000
23	Yes	Screening and Grit: Headworks	\$1,900,000
24	Yes	Aeration Basin: Main	\$3,550,000
25	Yes	Blowers: Main	\$2,720,000
26	Yes	Round SC: Main	\$2,410,000
27	Yes	RAS WAS PS: Main	\$1,390,000
28	Yes	Cloth Disk Filter: Main	\$2,660,000
29	Yes	GBT: GBT	\$2,020,000
30	Yes	Aerobic Digester: AerDig1	\$860,000
31	Yes	WWTP BFP: BFP	\$1,670,000
32	Yes	Concrete Clearwell: Inf EQ	\$2,770,000
33	Yes	LPHO UV: Disinf	\$2,110,000
34	Yes	U.D. Facility: Post Aer	\$50,000
35	Yes	Vertical Turbine PS: PlntWatSys	\$780,000
36	Yes	Aerobic Digester: AerDig2	\$730,000
37	Yes	Aerobic Digester: AerDig3	\$810,000
38	Yes	Emergency Generator: EM Gen	\$540,270
39	Yes	O&M Building: Ops Bldg	\$1,010,000
40	Yes	O&M Building: Maint Bldg	\$760,000
41	Yes	Submersible IPS: Plnt Drain	\$570,000
43	SUBTOTAL - PROJECT COST		\$32,210,270
45	ADDITIONAL PROJECT COSTS:		
46	Demolition	0.0%	\$0
47	Overall Sitework	5.0%	\$1,620,000
48	Plant Computer System	1.0%	\$330,000
49	Yard Electrical	6.0%	\$1,940,000
50	Yard Piping	12.0%	\$3,870,000
51	UD #1 Default Description	0.0%	\$0
52	UD #2 Default Description	0.0%	\$0
53	UD #3 Default Description	0.0%	\$0
54	SUBTOTAL with Additional Project Costs		\$39,970,270
56	TAX:	0.00%	\$39,970,270
57	SUBTOTAL with Tax		\$39,970,270
59	CONTRACTOR MARKUPS:		
60	Overhead	10.0%	\$39,970,270
61	Subtotal		\$43,970,270

	A	B	C	D	E
62	Profit		5.0%	\$43,970,270	\$2,200,000
63	Subtotal				\$46,170,270
64	Mob/Bonds/Insurance		5.0%	\$46,170,270	\$2,310,000
65	Subtotal				\$48,480,270
66	Contingency		0.0%	\$48,480,270	\$0
67	SUBTOTAL with Markups				\$48,480,270
68					
69	ESCALATION (to Mid-Point of Construction)		3.0%	\$48,480,270	\$1,460,000
70	SUBTOTAL with Escalation				\$49,940,270
71					
72	LOCATION ADJUSTMENT FACTOR		87.4	\$49,940,270	\$43,650,000
73	SUBTOTAL - with Local Adjustment Factor				\$43,650,000
74					
75	RED FLAGS:				
76	1	Rock Excavation			\$1,000,000
77	2	Pile Foundations			\$250,000
78	3	Seismic Foundations			
79	4	Dewatering Conditions			\$500,000
80	5	Wetlands Mitigation			
81	6	Weather Impacts			
82	7	Depth of Structures			\$250,000
83	8	Local Building Code Restrictions			
84	9	Coatings or Finishes			
85	10	Building or Architectural Considerations			\$500,000
86	11	Client Material Preferences			
87	12	Client Equipment Preferences			
88	13	Piping Galleries, Piping Trenches, Piping Racks			
89	14	Yard Piping Complexity			
90	15	Existing Site Utilities (New, Retrofit, and Complexity)			
91	16	I & C Automation (New or Retrofit)			
92	17	Electrical Feed (New or Retrofit)			
93	18	Electrical Distribution			
94	19	Shoring			\$250,000
95	20	Contamination			
96	21	User Defined Red Flag 1			
97	22	User Defined Red Flag 2			
98	23	User Defined Red Flag 3			
99	24	User Defined Red Flag 4			
100	25	User Defined Red Flag 5			
101	26	User Defined Red Flag 6			
102	27	User Defined Red Flag 7			
103	TOTAL - RED FLAGS				\$2,750,000
104					
105	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$46,400,000
106					
107	MARKET ADJUSTMENT FACTOR		0%	\$46,400,000	\$0
108	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$46,400,000
109	Your CPES Estimate MUST be reviewed by a Process person AND an Estimator:				
110	Name of Process Reviewer			Goodwin	Click for Rev
111	Name of Estimator Reviewer			Bredehoeft	
	MAXIMUM CONSTRUCTION COST				\$46,400,000
112					
113					
114	NON-CONSTRUCTION COSTS:				
115	Permitting		2.0%	\$46,400,000	\$930,000
116	Engineering		10.0%	\$46,400,000	\$4,640,000
117	Services During Construction		8.0%	\$46,400,000	\$3,720,000
118	Commissioning & Startup		3.0%	\$46,400,000	\$1,400,000
119	Land / ROW		0.0%	\$46,400,000	\$0
120	Legal / Admin		0.0%	\$46,400,000	\$0
121	Other Default Description		0.0%	\$46,400,000	\$0
122	SUBTOTAL - Non-Construction Costs				\$10,690,000
123					
124	TOTAL - CAPITAL COST				\$57,090,000
125					
126	Currency Conversion of TOTAL CAPITAL COST:				
127		Currency	Unit of Measure	Conversion Rate	Converted Amount

	A	B	C	D	E
128		None	U.S.Dollar	1	57,090,000

R-002042

Appendix F

Turkey Creek Opinion of Cost Summary

CH2M HILL Parametric Cost Estimating System (CPES)

FACILITIES DESIGN & CONSTRUCTION COST MODULE

File Version: 9/12/201 **Click for CPES** **To Concrete Wall Thickness Help** **Summary Matrix** **To Unit Cost Database**

Project Capacity: >>> **5.00** **Project Unit: >>>** **mga** *(For example: MGD, HP, GPM...)*

Project Name:	<u>Turkey WWTP</u>	
Project Number:	<u>458937</u>	
Project Manager:	<u>Ken McGraw</u>	
Estimator:	<u>Jamie Zivich</u>	
Project Description:	<u>Jefferson County WW Asset Estimate</u>	Roundup to the nearest:
Project Location (City):	<u>Birmingham</u>	\$10,000
Project Location (State):	<u>ALABAMA</u>	
Project Location (Country):	<u>USA</u>	
Construction Start (Month):	<u>Jan</u>	<input type="checkbox"/> This Report is for INTERNAL Distribution
Construction Start (Year):	<u>2012</u>	
Construction Duration (months):	<u>24</u>	
Mid-Point of Construction:	<u>Jan/2013</u>	<input checked="" type="checkbox"/> This Report is for EXTERNAL Distribution

Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT	Cost
22	Yes	Submersible IPS: Inf PS	\$2,240,000
23	Yes	Screening and Grit: Headworks	\$2,170,000
24	Yes	Aeration Basin: Main	\$2,850,000
25	Yes	Blowers: Main	\$2,400,000
26	Yes	Round SC: Main	\$2,530,000
27	Yes	RAS WAS PS: Main	\$1,770,000
28	Yes	Cloth Disk Filter: Main	\$3,120,000
29	Yes	GBT: GBT	\$1,360,000
30	Yes	Aerobic Digester: AerDig1	\$580,000
31	Yes	Aerobic Digester: AerDig2	\$560,000
32	Yes	Aerobic Digester: AerDig3	\$650,000
33	Yes	WWTP BFP: BFP	\$1,400,000
34	Yes	O&M Building: Ops Bldg	\$1,010,000
35	Yes	O&M Building: Main Bldg	\$760,000
36	Yes	U.D. Facility: Post Aer	\$80,000
37	Yes	LPHO UV: Disinf	\$3,890,000
38	Yes	Vertical Turbine PS: WaterSyst	\$770,000
39	Yes	Emergency Generator: EM Gen	\$780,000
40	Yes	Concrete Clearwell: Inf EQ	\$6,720,000
41	Yes	Submersible IPS: Plnt Drain	\$570,000
42			
43	SUBTOTAL - PROJECT COST		\$36,210,000
44			
45	ADDITIONAL PROJECT COSTS:		
46	Demolition	0.0%	\$0
47	Overall Sitework	5.0%	\$1,820,000
48	Plant Computer System	1.0%	\$370,000

	A	B	C	D	E
49		Yard Electrical	8.0%		\$2,900,000
50		Yard Piping	12.0%		\$4,350,000
51		UD #1 Default Description	0.0%		\$0
52		UD #2 Default Description	0.0%		\$0
53		UD #3 Default Description	0.0%		\$0
54	SUBTOTAL with Additional Project Costs				\$45,650,000
55					
56	TAX:		0.00%	\$45,650,000	\$0
57	SUBTOTAL with Tax				\$45,650,000
58					
59	CONTRACTOR MARKUPS:				
60		Overhead	10.0%	\$45,650,000	\$4,570,000
61		Subtotal			\$50,220,000
62		Profit	5.0%	\$50,220,000	\$2,520,000
63		Subtotal			\$52,740,000
64		Mob/Bonds/Insurance	5.0%	\$52,740,000	\$2,640,000
65		Subtotal			\$55,380,000
66		Contingency	0.0%	\$55,380,000	\$0
67	SUBTOTAL with Markups				\$55,380,000
68					
69		ESCALATION (to Mid-Point of Construction)	3.0%	\$55,380,000	\$1,670,000
70	SUBTOTAL with Escalation				\$57,050,000
71					
72		LOCATION ADJUSTMENT FACTOR	87.4	\$57,050,000	\$49,870,000
73	SUBTOTAL - with Local Adjustment Factor				\$49,870,000
74					
75	RED FLAGS:				
76	1	Rock Excavation			\$1,000,000
77	2	Pile Foundations			\$250,000
78	3	Seismic Foundations			
79	4	Dewatering Conditions			\$500,000
80	5	Wetlands Mitigation			
81	6	Weather Impacts			
82	7	Depth of Structures			\$250,000
83	8	Local Building Code Restrictions			
84	9	Coatings or Finishes			
85	10	Building or Architectural Considerations			\$500,000
86	11	Client Material Preferences			
87	12	Client Equipment Preferences			
88	13	Piping Galleries, Piping Trenches, Piping Racks			
89	14	Yard Piping Complexity			
90	15	Existing Site Utilities (New, Retrofit, and Complexity)			
91	16	I & C Automation (New or Retrofit)			
92	17	Electrical Feed (New or Retrofit)			
93	18	Electrical Distribution			
94	19	Shoring			\$250,000
95	20	Contamination			
96	21	User Defined Red Flag 1			
97	22	User Defined Red Flag 2			
98	23	User Defined Red Flag 3			

	A	B	C	D	E
99	24	User Defined Red Flag 4			
100	25	User Defined Red Flag 5			
101	26	User Defined Red Flag 6			
102	27	User Defined Red Flag 7			
103	TOTAL - RED FLAGS				\$2,750,000
104					
105	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$52,620,000
106					
107	MARKET ADJUSTMENT FACTOR		0%	\$52,620,000	\$0
108	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$52,620,000
109	Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:				
110	Name of Process Reviewer			Goodwin	Click for Rev
111	Name of Estimator Reviewer			Bredehoeft	
112	MAXIMUM CONSTRUCTION COST				\$52,620,000
113					
114	NON-CONSTRUCTION COSTS:				
115	Permitting		2.0%	\$52,620,000	\$1,060,000
116	Engineering		10.0%	\$52,620,000	\$5,270,000
117	Services During Construction		8.0%	\$52,620,000	\$4,210,000
118	Commissioning & Startup		3.0%	\$52,620,000	\$1,580,000
119	Land / ROW		0.0%	\$52,620,000	\$0
120	Legal / Admin		0.0%	\$52,620,000	\$0
121	Other Default Description		0.0%	\$52,620,000	\$0
122	SUBTOTAL - Non-Construction Costs				\$12,120,000
123					
124	TOTAL - CAPITAL COST				\$64,740,000
125					
126	Currency Conversion of TOTAL CAPITAL COST:				
127		Currency	Unit of Measure	Conversion Rate	Converted Amount
128		None	U.S.Dollar	1	64,740,000

Appendix G Trussville Opinion of Cost Summary

CH2M HILL Parametric Cost Estimating System (CPES)

FACILITIES DESIGN & CONSTRUCTION COST MODULE

File Version: 9/12/201

Project Capacity: >>> **4.00** **Project Unit: >>>** **mgd** *(For example: MGD, HP, GPM...)*

Project Name:	<u>Trussville WWTP</u>	
Project Number:	<u>458937</u>	
Project Manager:	<u>Ken McGraw</u>	
Estimator:	<u>Jamie Zivich</u>	
Project Description:	<u>Jefferson County WW Asset Estimate</u>	Roundup to the nearest:
Project Location (City):	<u>Birmingham</u>	\$10,000
Project Location (State):	<u>ALABAMA</u>	
Project Location (Country):	<u>USA</u>	
Construction Start (Month):	<u>Jan</u>	<input type="checkbox"/> This Report is for INTERNAL Distribution
Construction Start (Year):	<u>2012</u>	
Construction Duration (months):	<u>24</u>	<input checked="" type="checkbox"/> This Report is for EXTERNAL Distribution
Mid-Point of Construction:	<u>Jan/2013</u>	

Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT	Cost
22	Yes	Submersible IPS: Inf_PS	\$1,530,000
23	Yes	Screening and Grit: Headworks	\$2,010,000
24	Yes	Aeration Basin: Main	\$2,980,000
25	Yes	Blowers: Main	\$2,180,000
26	Yes	Round SC: Main	\$2,400,000
27	Yes	RAS WAS PS: Main	\$1,550,000
28	Yes	Cloth Disk Filter: Main	\$2,880,000
29	Yes	GBT: GBT	\$2,020,000
30	Yes	Aerobic Digester: AerDig1	\$680,000
31	Yes	Aerobic Digester: AerDig2	\$660,000
32	Yes	Aerobic Digester: AerDig3	\$720,000
33	Yes	WWTP BFP: BFP	\$1,550,000
34	Yes	LPHO UV: Disinf	\$2,120,000
35	Yes	O&M Building: Ops Bldg	\$1,010,000
36	Yes	O&M Building: Maint Bldg	\$760,000
37	Yes	Emergency Generator: EM_Gen	\$790,000
38	Yes	Vertical Turbine PS: WtrSystem	\$780,000
39	Yes	U.D. Facility: Post Aer	\$30,000
40	Yes	Liquid Chemical: ChemFeed	\$340,000
41	Yes	Submersible IPS: Plnt Drain	\$560,000
42			
43	SUBTOTAL - PROJECT COST		\$27,550,000
44			
45	ADDITIONAL PROJECT COSTS:		
46	Demolition	0.0%	\$0
47	Overall Sitework	5.0%	\$1,380,000
48	Plant Computer System	1.0%	\$280,000

	A	B	C	D	E
49		Yard Electrical	8.0%		\$2,210,000
50		Yard Piping	12.0%		\$3,310,000
51		UD #1 Default Description	0.0%		\$0
52		UD #2 Default Description	0.0%		\$0
53		UD #3 Default Description	0.0%		\$0
54	SUBTOTAL with Additional Project Costs				\$34,730,000
55					
56	TAX:		0.00%	\$34,730,000	\$0
57	SUBTOTAL with Tax				\$34,730,000
58					
59	CONTRACTOR MARKUPS:				
60		Overhead	10.0%	\$34,730,000	\$3,480,000
61		Subtotal			\$38,210,000
62		Profit	5.0%	\$38,210,000	\$1,920,000
63		Subtotal			\$40,130,000
64		Mob/Bonds/Insurance	5.0%	\$40,130,000	\$2,010,000
65		Subtotal			\$42,140,000
66		Contingency	0.0%	\$42,140,000	\$0
67	SUBTOTAL with Markups				\$42,140,000
68					
69		ESCALATION (to Mid-Point of Construction)	3.0%	\$42,140,000	\$1,270,000
70	SUBTOTAL with Escalation				\$43,410,000
71					
72		LOCATION ADJUSTMENT FACTOR	87.4	\$43,410,000	\$37,950,000
73	SUBTOTAL - with Local Adjustment Factor				\$37,950,000
74					
75	RED FLAGS:				
76	1	Rock Excavation			\$1,000,000
77	2	Pile Foundations			\$250,000
78	3	Seismic Foundations			
79	4	Dewatering Conditions			\$500,000
80	5	Wetlands Mitigation			
81	6	Weather Impacts			
82	7	Depth of Structures			
83	8	Local Building Code Restrictions			
84	9	Coatings or Finishes			
85	10	Building or Architectural Considerations			\$500,000
86	11	Client Material Preferences			
87	12	Client Equipment Preferences			
88	13	Piping Galleries, Piping Trenches, Piping Racks			
89	14	Yard Piping Complexity			
90	15	Existing Site Utilities (New, Retrofit, and Complexity)			
91	16	I & C Automation (New or Retrofit)			
92	17	Electrical Feed (New or Retrofit)			
93	18	Electrical Distribution			
94	19	Shoring			\$250,000
95	20	Contamination			
96	21	User Defined Red Flag 1			
97	22	User Defined Red Flag 2			
98	23	User Defined Red Flag 3			

	A	B	C	D	E
99	24	User Defined Red Flag 4			
100	25	User Defined Red Flag 5			
101	26	User Defined Red Flag 6			
102	27	User Defined Red Flag 7			
103	TOTAL - RED FLAGS				\$2,500,000
104					
105	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$40,450,000
106					
107	MARKET ADJUSTMENT FACTOR		0%	\$40,450,000	\$0
108	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$40,450,000
109	Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:				
110	Name of Process Reviewer			Goodwin	Click for Reviewer
111	Name of Estimator Reviewer			Bredehoeft	
112	MAXIMUM CONSTRUCTION COST				\$40,450,000
113					
114	NON-CONSTRUCTION COSTS:				
115	Permitting		2.0%	\$40,450,000	\$810,000
116	Engineering		10.0%	\$40,450,000	\$4,050,000
117	Services During Construction		8.0%	\$40,450,000	\$3,240,000
118	Commissioning & Startup		3.0%	\$40,450,000	\$1,220,000
119	Land / ROW		0.0%	\$40,450,000	\$0
120	Legal / Admin		0.0%	\$40,450,000	\$0
121	Other Default Description		0.0%	\$40,450,000	\$0
122	SUBTOTAL - Non-Construction Costs				\$9,320,000
123					
124	TOTAL - CAPITAL COST				\$49,770,000
125					
126	Currency Conversion of TOTAL CAPITAL COST:				
127		Currency	Unit of Measure	Conversion Rate	Converted Amount
128		None	U.S.Dollar	1	49,770,000

Appendix H
Prudes Creek Opinion of Cost Summary

Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT	Cost
22	Yes	Submersible IPS: Inf PS	\$1,040,000
23	Yes	Screening and Grit: Headworks	\$1,060,000
24	Yes	Aeration Basin: Main	\$840,000
25	Yes	Blowers: Main	\$980,000
26	Yes	Round SC: Main	\$1,080,000
27	Yes	RAS WAS PS: Main	\$960,000
28	Yes	Cloth Disk Filter: Main	\$1,000,000
29	Yes	GBT: GBT	\$770,000
30	Yes	Aerobic Digester: AerDtg1	\$200,000
31	Yes	Aerobic Digester: AerDtg2	\$200,000
32	Yes	Aerobic Digester: AerDtg3	\$200,000
33	Yes	WWTP BFP: BFP	\$830,000
34	Yes	O&M Building: Ops Bldg	\$760,000
35	Yes	O&M Building: Main Bldg	\$760,000
36	Yes	U.D. Facility: Post Aer	\$30,000
37	Yes	Emergency Generator: EM Gen	\$280,000
38	Yes	LPHO UV: Disinf	\$950,000
39	Yes	U.D. Facility: W3 System	\$160,000
40	Yes	Submersible IPS: Plnt Drain	\$320,000
42	SUBTOTAL - PROJECT COST		\$12,420,000
44	ADDITIONAL PROJECT COSTS:		
45	Demolition	0.0%	\$0
46	Overall Sitework	5.0%	\$630,000
47	Plant Computer System	1.0%	\$130,000
48	Yard Electrical	8.0%	\$1,000,000
49	Yard Piping	12.0%	\$1,500,000
50	UD #1 Default Description	0.0%	\$0
51	UD #2 Default Description	0.0%	\$0
52	UD #3 Default Description	0.0%	\$0
53	SUBTOTAL with Additional Project Costs		\$15,680,000
55	TAX:	0.00%	\$15,680,000
56	SUBTOTAL with Tax		\$15,680,000
58	CONTRACTOR MARKUPS:		
59	Overhead	10.0%	\$1,570,000
60	Subtotal		\$17,250,000
61	Profit	5.0%	\$870,000

	A	B	C	D	E
62		Subtotal			\$18,120,000
63		Mob/Bonds/Insurance	5.0%	\$18,120,000	\$910,000
64		Subtotal			\$19,030,000
65		Contingency	0.0%	\$19,030,000	\$0
66		SUBTOTAL with Markups			\$19,030,000
67					
68		ESCALATION (to Mid-Point of Construction	2.3%	\$19,030,000	\$440,000
69		SUBTOTAL with Escalation			\$19,470,000
70					
71		LOCATION ADJUSTMENT FACTOR	87.4	\$19,470,000	\$17,020,000
72		SUBTOTAL - with Local Adjustment Factor			\$17,020,000
73					
74		RED FLAGS:			
75	1	Rock Excavation			\$750,000
76	2	Pile Foundations			\$150,000
77	3	Seismic Foundations			
78	4	Dewatering Conditions			\$250,000
79	5	Wetlands Mitigation			
80	6	Weather Impacts			
81	7	Depth of Structures			
82	8	Local Building Code Restrictions			
83	9	Coatings or Finishes			
84	10	Building or Architectural Considerations			\$250,000
85	11	Client Material Preferences			
86	12	Client Equipment Preferences			
87	13	Piping Galleries, Piping Trenches, Piping Racks			
88	14	Yard Piping Complexity			
89	15	Existing Site Utilities (New, Retrofit, and Complexity)			
90	16	I & C Automation (New or Retrofit)			
91	17	Electrical Feed (New or Retrofit)			
92	18	Electrical Distribution			
93	19	Shoring			\$250,000
94	20	Contamination			
95	21	User Defined Red Flag 1			
96	22	User Defined Red Flag 2			
97	23	User Defined Red Flag 3			
98	24	User Defined Red Flag 4			
99	25	User Defined Red Flag 5			
100	26	User Defined Red Flag 6			
101	27	User Defined Red Flag 7			
102		TOTAL - RED FLAGS			\$1,650,000
103					
104		SUBTOTAL - CONSTRUCTION COST with Red Flags			\$18,670,000
105					
106		MARKET ADJUSTMENT FACTOR	0%	\$18,670,000	\$0
107		SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor			\$18,670,000
108		Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:			
109		Name of Process Reviewer		Goodwin	Click for Rev
110		Name of Estimator Reviewer		Bredehoeft	
111		MAXIMUM CONSTRUCTION COST			\$18,670,000
112					
113		NON-CONSTRUCTION COSTS:			
114		Permitting	2.0%	\$18,670,000	\$380,000
115		Engineering	10.0%	\$18,670,000	\$1,870,000
116		Services During Construction	8.0%	\$18,670,000	\$1,500,000
117		Commissioning & Startup	3.0%	\$18,670,000	\$570,000
118		Land / ROW	0.0%	\$18,670,000	\$0
119		Legal / Admin	0.0%	\$18,670,000	\$0
120		Other Default Description	0.0%	\$18,670,000	\$0
121		SUBTOTAL - Non-Construction Costs			\$4,320,000
122					
123		TOTAL - CAPITAL COST			\$22,990,000
124					
125		Currency Conversion of TOTAL CAPITAL COST:			
126		Currency	Unit of Measure	Conversion Rate	Converted Amount
127		None	U.S. Dollar	1	22,990,000

Appendix I
Warrior Opinion of Cost Summary

CH2M HILL Parametric Cost Estimating System (CPES)

FACILITIES DESIGN & CONSTRUCTION COST MODULE

File Version: 9/12/201 **Click for CPES C** **To Concrete Wall Thickness Help** **ost Summary Matrix** **To Unit Cost Database**

Project Capacity: >>> **0.20** **Project Unit: >>>** **mgd** *(For example: MGD, HP, GPM...)*

Project Name: Warrior WWTP
Project Number: 458937
Project Manager: Ken McGraw
Estimator: Jamie Zivich
Project Description: Jefferson County WW Asset Estimate **Roundup to the nearest:**
Project Location (City): Birmingham **\$10,000**
Project Location (State): ALABAMA
Project Location (Country): USA
Construction Start (Month): Jan This Report is for INTERNAL Distribution
Construction Start (Year): 2012
Construction Duration (months): 18
Mid-Point of Construction: Oct/2012 This Report is for EXTERNAL Distribution

Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT	Cost
22	Yes	Submersible IPS: Inf_PS	\$370,000
23	Yes	Screening and Grit: Headworks	\$500,000
24	Yes	Aeration Basin: Main	\$850,000
25	Yes	Blowers: Main	\$960,000
26	Yes	Round SC: Main	\$490,000
27	Yes	RAS WAS PS: Main	\$470,000
28	Yes	Cloth Disk Filter: Main	\$480,000
29	Yes	Aerobic Digester: AerDig1	\$340,000
30	Yes	Aerobic Digester: AerDig2	\$340,000
31	Yes	WWTP BFP: BFP	\$840,000
32	Yes	O&M Building: Ops Bldg	\$510,000
33	Yes	O&M Building: Main Bldg	\$380,000
34	Yes	Emergency Generator: EM Gen	\$220,000
35	Yes	U.D. Facility: Post Aer	\$20,000
36	Yes	LPHO UV: Disinf	\$370,000
37	Yes	U.D. Facility: W3 System	\$90,000
38			
39	SUBTOTAL - PROJECT COST		\$7,230,000
40			
41	ADDITIONAL PROJECT COSTS:		
42	Demolition	0.0%	\$0
43	Overall Sitework	8.0%	\$580,000
44	Plant Computer System	1.0%	\$80,000
45	Yard Electrical	10.0%	\$730,000
46	Yard Piping	12.0%	\$870,000
47	UD #1 Default Description	0.0%	\$0

	A	B	C	D	E
48		UD #2 Default Description	0.0%		\$0
49		UD #3 Default Description	0.0%		\$0
50	SUBTOTAL with Additional Project Costs				\$9,490,000
51					
52	TAX:		0.00%	\$9,490,000	\$0
53	SUBTOTAL with Tax				\$9,490,000
54					
55	CONTRACTOR MARKUPS:				
56		Overhead	10.0%	\$9,490,000	\$950,000
57		Subtotal			\$10,440,000
58		Profit	5.0%	\$10,440,000	\$530,000
59		Subtotal			\$10,970,000
60		Mob/Bonds/Insurance	5.0%	\$10,970,000	\$550,000
61		Subtotal			\$11,520,000
62		Contingency	0.0%	\$11,520,000	\$0
63	SUBTOTAL with Markups				\$11,520,000
64					
65		ESCALATION (to Mid-Point of Construction)	2.3%	\$11,520,000	\$270,000
66	SUBTOTAL with Escalation				\$11,790,000
67					
68		LOCATION ADJUSTMENT FACTOR	87.4	\$11,790,000	\$10,310,000
69	SUBTOTAL - with Local Adjustment Factor				\$10,310,000
70					
71	RED FLAGS:				
72	1	Rock Excavation			\$400,000
73	2	Pile Foundations			\$100,000
74	3	Seismic Foundations			
75	4	Dewatering Conditions			\$100,000
76	5	Wetlands Mitigation			
77	6	Weather Impacts			
78	7	Depth of Structures			
79	8	Local Building Code Restrictions			
80	9	Coatings or Finishes			
81	10	Building or Architectural Considerations			\$150,000
82	11	Client Material Preferences			
83	12	Client Equipment Preferences			
84	13	Piping Galleries, Piping Trenches, Piping Racks			
85	14	Yard Piping Complexity			
86	15	Existing Site Utilities (New, Retrofit, and Complexity)			
87	16	I & C Automation (New or Retrofit)			
88	17	Electrical Feed (New or Retrofit)			
89	18	Electrical Distribution			
90	19	Shoring			\$50,000
91	20	Contamination			
92	21	User Defined Red Flag 1			
93	22	User Defined Red Flag 2			
94	23	User Defined Red Flag 3			
95	24	User Defined Red Flag 4			
96	25	User Defined Red Flag 5			
97	26	User Defined Red Flag 6			

	A	B	C	D	E
98	27	User Defined Red Flag 7			
99	TOTAL - RED FLAGS				\$800,000
100					
101	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$11,110,000
102					
103	MARKET ADJUSTMENT FACTOR		0%	\$11,110,000	\$0
104	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$11,110,000
105	Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:				
106	Name of Process Reviewer			Goodwin	Click for Review
107	Name of Estimator Reviewer			Bredhoeft	
108	MAXIMUM CONSTRUCTION COST				\$11,110,000
109					
110	NON-CONSTRUCTION COSTS:				
111	Permitting		2.0%	\$11,110,000	\$230,000
112	Engineering		10.0%	\$11,110,000	\$1,120,000
113	Services During Construction		8.0%	\$11,110,000	\$890,000
114	Commissioning & Startup		3.0%	\$11,110,000	\$340,000
115	Land / ROW		0.0%	\$11,110,000	\$0
116	Legal / Admin		0.0%	\$11,110,000	\$0
117	Other Default Description		0.0%	\$11,110,000	\$0
118	SUBTOTAL - Non-Construction Costs				\$2,580,000
119					
120	TOTAL - CAPITAL COST				\$13,690,000
121					
122	Currency Conversion of TOTAL CAPITAL COST:				
123		Currency	Unit of Measure	Conversion Rate	Converted Amount
124		None	U.S.Dollar	1	13,690,000

Appendix J

**Valley Creek Opinion of Cost Summary, Plant Sizing
Based on Current 20 Year Flow Projections**

	A	B	C	D	E
1	CH2M HILL Parametric Cost Estimating System (CPES)				
2	FACILITIES DESIGN & CONSTRUCTION COST MODULE				
3					
4					
5	File Version: 9/12/201 Click for CPES To Concrete Wall Thickness Help Summary Matrix To Unit Cost Database				
6	Project Capacity: >>>	35.00	Project Unit: >>>	mga	(For example: MGD, HP, GPM...)
7	Project Name: <u>Valley Creek WWTP</u> Project Number: <u>458937</u> Project Manager: <u>Ken McGraw</u> Estimator: <u>Jamie Zivich</u> Project Description: <u>Jefferson County WW Asset Estimate</u>				
8					Roundup to the nearest:
9	Project Location (City): <u>Birmingham</u>				\$10,000
10	Project Location (State): <u>ALABAMA</u>				
11	Project Location (Country): <u>USA</u>				
12	Construction Start (Month): <u>Jan</u>				<input type="checkbox"/> This Report is for INTERNAL Distribution
13	Construction Start (Year): <u>2012</u>				
14	Construction Duration (months): <u>36</u>				<input checked="" type="checkbox"/> This Report is for EXTERNAL Distribution
15	Mid-Point of Construction: <u>Jul/2013</u>				
16					
17					
18					
19					
20					
21	Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT		Cost
22		Yes	Submersible IPS: Inf PS		\$6,680,000
23		Yes	Screening and Grit: Headworks		\$5,690,000
24		Yes	Primary Sludge PS: Main		\$1,020,000
25		Yes	Round PC: Main		\$6,250,000
26		Yes	Aeration Basin: Main		\$18,780,000
27		Yes	Blowers: Main		\$3,750,000
28		Yes	Round SC: Main		\$12,170,000
29		Yes	RAS WAS PS: Main		\$3,940,000
30		Yes	Filters: Eff Filter		\$18,140,000
31		Yes	Fermenter: Gravity		\$3,240,000
32		Yes	Centrifuge Thick: GBT		\$3,420,000
33		Yes	Silo AnDig: Meso		\$17,350,000
34		Yes	Centrifuge Dew: BFP		\$3,730,000
35		Yes	O&M Building: Ops Bldg		\$1,510,000
36		Yes	O&M Building: Main Bldg		\$2,020,000
37		Yes	Concrete Clearwell: Inf EQ		\$56,790,000
38		Yes	LPHO UV: Disinf		\$13,250,000
39		Yes	Submersible IPS: Eff PS		\$5,330,000
40		Yes	Submersible IPS: Plnt Drain		\$1,000,000
41		Yes	Vertical Turbine PS: W3 System		\$800,000
42		Yes	Aerobic Digester: Blend Tank		\$670,000
43		Yes	U.D. Facility: Post Aer		\$370,000
44		Yes	Emergency Generator: EM Gen		\$7,020,000
45					
46	SUBTOTAL - PROJECT COST				\$192,920,000
47					
48	ADDITIONAL PROJECT COSTS:				
49	Demolition		0.0%		\$0
50	Overall Sitework		5.0%		\$9,650,000
51	Plant Computer System		1.0%		\$1,930,000
52	Yard Electrical		6.0%		\$11,580,000
53	Yard Piping		12.0%		\$23,160,000
54	UD #1 Default Description		0.0%		\$0
55	UD #2 Default Description		0.0%		\$0
56	UD #3 Default Description		0.0%		\$0
57	SUBTOTAL with Additional Project Costs				\$239,240,000
58					
59	TAX:		0.00%	\$239,240,000	\$0
60	SUBTOTAL with Tax				\$239,240,000
61					
62	CONTRACTOR MARKUPS:				
63	Overhead		10.0%	\$239,240,000	\$23,930,000
64	Subtotal				\$263,170,000

	A	B	C	D	E
65	Profit		5.0%	\$263,170,000	\$13,160,000
66	<i>Subtotal</i>				\$276,330,000
67	Mob/Bonds/Insurance		5.0%	\$276,330,000	\$13,820,000
68	<i>Subtotal</i>				\$290,150,000
69	Contingency		0.0%	\$290,150,000	\$0
70	SUBTOTAL with Markups				\$290,150,000
71					
72	ESCALATION (to Mid-Point of Construction)		4.6%	\$290,150,000	\$13,350,000
73	SUBTOTAL with Escalation				\$303,500,000
74					
75	LOCATION ADJUSTMENT FACTOR		87.4	\$303,500,000	\$265,260,000
76	SUBTOTAL - with Local Adjustment Factor				\$265,260,000
77					
78	RED FLAGS:				
79	1	Rock Excavation			\$5,000,000
80	2	Pile Foundations			\$1,250,000
81	3	Seismic Foundations			
82	4	Dewatering Conditions			\$1,750,000
83	5	Wetlands Mitigation			
84	6	Weather Impacts			
85	7	Depth of Structures			\$2,500,000
86	8	Local Building Code Restrictions			
87	9	Coatings or Finishes			
88	10	Building or Architectural Considerations			\$2,500,000
89	11	Client Material Preferences			
90	12	Client Equipment Preferences			
91	13	Piping Galleries, Piping Trenches, Piping Racks			
92	14	Yard Piping Complexity			
93	15	Existing Site Utilities (New, Retrofit, and Complexity)			
94	16	I & C Automation (New or Retrofit)			
95	17	Electrical Feed (New or Retrofit)			
96	18	Electrical Distribution			
97	19	Shoring			\$4,000,000
98	20	Contamination			
99	21	User Defined Red Flag 1			
100	22	User Defined Red Flag 2			
101	23	User Defined Red Flag 3			
102	24	User Defined Red Flag 4			
103	25	User Defined Red Flag 5			
104	26	User Defined Red Flag 6			
105	27	User Defined Red Flag 7			
106	TOTAL - RED FLAGS				\$17,000,000
107					
108	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$282,260,000
109					
110	MARKET ADJUSTMENT FACTOR		0%	\$282,260,000	\$0
111	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$282,260,000
112	Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:				
113	Name of Process Reviewer			Goodwin	Click for Rev
114	Name of Estimator Reviewer			Bredehoeft	
115	MAXIMUM CONSTRUCTION COST				\$282,260,000
116					
117	NON-CONSTRUCTION COSTS:				
118	Permitting		2.0%	\$282,260,000	\$5,650,000
119	Engineering		10.0%	\$282,260,000	\$28,230,000
120	Services During Construction		8.0%	\$282,260,000	\$22,590,000
121	Commissioning & Startup		3.0%	\$282,260,000	\$8,470,000
122	Land / ROW		0.0%	\$282,260,000	\$0
123	Legal / Admin		0.0%	\$282,260,000	\$0
124	Other Default Description		0.0%	\$282,260,000	\$0
125	SUBTOTAL - Non-Construction Costs				\$64,940,000
126					
127	TOTAL - CAPITAL COST				\$347,200,000
128					
129	Currency Conversion of TOTAL CAPITAL COST:				
130		Currency	Unit of Measure	Conversion Rate	Converted Amount
131		None	U.S.Dollar	1	347,200,000

Appendix K

**Village Creek Opinion of Cost Summary, Plant
Sizing Based on Current 20 Year Flow Projections**

	A	B	C	D	E
1	CH2M HILL Parametric Cost Estimating System (CPES)				
2	FACILITIES DESIGN & CONSTRUCTION COST MODULE				
3					
4					
5	File Version: 9/12/201 Click for CPES To Concrete Wall Thickness Help Summary Matri To Unit Cost Database				
6	Project Capacity: >>>	38.00	Project Unit: >>>	mga	(For example: MGD, HP, GPM...)
7	Project Name: Village WWTP Project Number: 458937 Project Manager: Ken McGraw Estimator: Jamie Zivich Project Description: Jefferson County WW Asset Estimate				
8					Roundup to the nearest:
9	Project Location (City): Birmingham				\$10,000
10	Project Location (State): ALABAMA				
11	Project Location (Country): USA				
12	Construction Start (Month): Jan				<input type="checkbox"/> This Report is for INTERNAL Distribution
13	Construction Start (Year): 2012				
14	Construction Duration (months): 36				<input checked="" type="checkbox"/> This Report is for EXTERNAL Distribution
15	Mid-Point of Construction: Jul/2013				
16					
17					
18					
19					
20					
21	Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT		Cost
22		Yes	Submersible IPS: Inf PS		\$14,850,000
23		Yes	Screening and Grit: Headworks		\$4,020,000
24		Yes	Primary Sludge PS: Main		\$1,010,000
25		Yes	Round PC: Main		\$6,100,000
26		Yes	Aeration Basin: Main		\$20,810,000
27		Yes	Blowers: Main		\$3,900,000
28		Yes	Round SC: Main		\$10,110,000
29		Yes	RAS WAS PS: Main		\$3,790,000
30		Yes	Filters: Eff Filter		\$20,280,000
31		Yes	Fermenter: Gravity		\$3,020,000
32		Yes	Centrifuge Thick: GBT		\$4,210,000
33		Yes	Silo AnDig: Meso		\$17,450,000
34		Yes	Centrifuge Dew: BFP		\$3,790,000
35		Yes	Aerobic Digester: Blend Tank		\$630,000
36		Yes	Concrete Clearwell: Inf EQ		\$41,120,000
37		Yes	LPHO UV: Disinf		\$14,300,000
38		Yes	O&M Building: Ops Bldg		\$1,770,000
39		Yes	O&M Building: Main Bldg		\$1,260,000
40		Yes	Submersible IPS: Eff PS		\$5,590,000
41		Yes	Submersible IPS: Plnt Drain		\$1,050,000
42		Yes	Vertical Turbine PS: W3 System		\$950,000
43		Yes	Emergency Generator: EM Gen		\$7,020,000
44		Yes	U.D. Facility: Post Aer		\$380,000
45					
46	SUBTOTAL - PROJECT COST				\$187,410,000
47					
48	ADDITIONAL PROJECT COSTS:				
49	Demolition		0.0%		\$0
50	Overall Sitework		8.0%		\$15,000,000
51	Plant Computer System		1.0%		\$1,880,000
52	Yard Electrical		5.0%		\$9,380,000
53	Yard Piping		15.0%		\$28,120,000
54	UD #1 Default Description		0.0%		\$0
55	UD #2 Default Description		0.0%		\$0
56	UD #3 Default Description		0.0%		\$0
57	SUBTOTAL with Additional Project Costs				\$241,790,000
58					
59	TAX:		0.00%	\$241,790,000	\$0
60	SUBTOTAL with Tax				\$241,790,000
61					
62	CONTRACTOR MARKUPS:				
63	Overhead		10.0%	\$241,790,000	\$24,180,000
64	Subtotal				\$265,970,000

	A	B	C	D	E
65	Profit		5.0%	\$265,970,000	\$13,300,000
66	<i>Subtotal</i>				\$279,270,000
67	Mob/Bonds/Insurance		5.0%	\$279,270,000	\$13,970,000
68	<i>Subtotal</i>				\$293,240,000
69	Contingency		0.0%	\$293,240,000	\$0
70	SUBTOTAL with Markups				\$293,240,000
71					
72	ESCALATION (to Mid-Point of Construction)		4.6%	\$293,240,000	\$13,490,000
73	SUBTOTAL with Escalation				\$306,730,000
74					
75	LOCATION ADJUSTMENT FACTOR		87.4	\$306,730,000	\$268,090,000
76	SUBTOTAL - with Local Adjustment Factor				\$268,090,000
77					
78	RED FLAGS:				
79	1	Rock Excavation			\$6,700,000
80	2	Pile Foundations			\$1,700,000
81	3	Seismic Foundations			
82	4	Dewatering Conditions			\$2,300,000
83	5	Wetlands Mitigation			
84	6	Weather Impacts			
85	7	Depth of Structures			\$3,300,000
86	8	Local Building Code Restrictions			
87	9	Coatings or Finishes			
88	10	Building or Architectural Considerations			\$3,300,000
89	11	Client Material Preferences			
90	12	Client Equipment Preferences			
91	13	Piping Galleries, Piping Trenches, Piping Racks			
92	14	Yard Piping Complexity			
93	15	Existing Site Utilities (New, Retrofit, and Complexity)			
94	16	I & C Automation (New or Retrofit)			
95	17	Electrical Feed (New or Retrofit)			
96	18	Electrical Distribution			
97	19	Shoring			\$5,300,000
98	20	Contamination			
99	21	User Defined Red Flag 1			
100	22	User Defined Red Flag 2			
101	23	User Defined Red Flag 3			
102	24	User Defined Red Flag 4			
103	25	User Defined Red Flag 5			
104	26	User Defined Red Flag 6			
105	27	User Defined Red Flag 7			
106	TOTAL - RED FLAGS				\$22,600,000
107					
108	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$290,690,000
109					
110	MARKET ADJUSTMENT FACTOR		0%	\$290,690,000	\$0
111	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$290,690,000
112	Your CPES Estimate <u>MUST</u> be reviewed by a Process person <u>AND</u> an Estimator:				
113	Name of Process Reviewer			Goodwin	Click for Rev
114	Name of Estimator Reviewer			Bredehoeft	
115	MAXIMUM CONSTRUCTION COST				\$290,690,000
116					
117	NON-CONSTRUCTION COSTS:				
118	Permitting		2.0%	\$290,690,000	\$5,820,000
119	Engineering		10.0%	\$290,690,000	\$29,070,000
120	Services During Construction		8.0%	\$290,690,000	\$23,260,000
121	Commissioning & Startup		3.0%	\$290,690,000	\$8,730,000
122	Land / ROW		0.0%	\$290,690,000	\$0
123	Legal / Admin		0.0%	\$290,690,000	\$0
124	Other Default Description		0.0%	\$290,690,000	\$0
125	SUBTOTAL - Non-Construction Costs				\$66,880,000
126					
127	TOTAL - CAPITAL COST				\$357,570,000
128					
129	Currency Conversion of TOTAL CAPITAL COST:				
130		Currency	Unit of Measure	Conversion Rate	Converted Amount
131		None	U.S.Dollar	1	357,570,000

Appendix L

**Five Mile Creek Opinion of Cost Summary, Plant
Sizing Based on Current 20 Year Flow Projections**

Item	Is This Facility Included in Project? (Yes or No)	SCOPE OF PROJECT	Cost
21	Yes	Submersible IPS: Inf PS	\$2,960,000
22	Yes	Screening and Grit: Headworks	\$3,180,000
23	Yes	Aeration Basin: Main	\$4,280,000
24	Yes	Blowers: Main	\$3,170,000
25	Yes	Round SC: Main	\$3,470,000
26	Yes	RAS WAS PS: Main	\$1,700,000
27	Yes	GBT: GBT	\$2,320,000
28	Yes	Aerobic Digester: AerDiq1	\$920,000
29	Yes	Aerobic Digester: AerDiq2	\$830,000
30	Yes	Aerobic Digester: AerDiq3	\$940,000
31	Yes	Centrifuge Dew: BFP	\$1,620,000
32	Yes	LPHO UV: Disinf	\$4,030,000
33	Yes	O&M Building: Ops Bldg	\$1,770,000
34	Yes	O&M Building: Main Bldg	\$1,260,000
35	Yes	U.D. Facility: Post Aer	\$140,000
36	Yes	Emergency Generator: EM Gen	\$1,770,000
37	Yes	Submersible IPS: Pint Drain	\$670,000
38	Yes	Submersible IPS: Filter PS	\$1,990,000
39	Yes	Concrete Clearwell: Inf EQ	\$7,150,000
40	Yes	Vertical Turbine PS: WS PS	\$700,000
41	Yes	Filters: Eff Filter	\$9,150,000
42			
43			
44	SUBTOTAL - PROJECT COST		\$54,020,000
45			
46	ADDITIONAL PROJECT COSTS:		
47	Demolition	0.0%	\$0
48	Overall Sitework	5.0%	\$2,710,000
49	Plant Computer System	1.0%	\$550,000
50	Yard Electrical	5.0%	\$2,710,000
51	Yard Piping	12.0%	\$6,490,000
52	UD #1 Default Description	0.0%	\$0
53	UD #2 Default Description	0.0%	\$0
54	UD #3 Default Description	0.0%	\$0
55	SUBTOTAL with Additional Project Costs		\$66,480,000
56			
57	TAX:	0.00%	\$66,480,000
58	SUBTOTAL with Tax		\$66,480,000
59			
60	CONTRACTOR MARKUPS:		
61	Overhead	10.0%	\$66,480,000
62	Subtotal		\$73,130,000
63	Profit	5.0%	\$73,130,000
64	Subtotal		\$76,790,000

	A	B	C	D	E
65	Mob/Bonds/Insurance		5.0%	\$76,790,000	\$3,840,000
66	Subtotal				\$80,630,000
67	Contingency		0.0%	\$80,630,000	\$0
68	SUBTOTAL with Markups				\$80,630,000
69					
70	ESCALATION (to Mid-Point of Construction		3.8%	\$80,630,000	\$3,070,000
71	SUBTOTAL with Escalation				\$83,700,000
72					
73	LOCATION ADJUSTMENT FACTOR		87.4	\$83,700,000	\$73,160,000
74	SUBTOTAL - with Local Adjustment Factor				\$73,160,000
75					
76	RED FLAGS:				
77	1	Rock Excavation			\$2,500,000
78	2	Pile Foundations			\$750,000
79	3	Seismic Foundations			
80	4	Dewatering Conditions			\$1,000,000
81	5	Wetlands Mitigation			
82	6	Weather Impacts			
83	7	Depth of Structures			\$750,000
84	8	Local Building Code Restrictions			
85	9	Coatings or Finishes			
86	10	Building or Architectural Considerations			\$1,000,000
87	11	Client Material Preferences			
88	12	Client Equipment Preferences			
89	13	Piping Galleries, Piping Trenches, Piping Racks			
90	14	Yard Piping Complexity			
91	15	Existing Site Utilities (New, Retrofit, and Complexity)			
92	16	I & C Automation (New or Retrofit)			
93	17	Electrical Feed (New or Retrofit)			
94	18	Electrical Distribution			
95	19	Shoring			\$1,250,000
96	20	Contamination			
97	21	User Defined Red Flag 1			
98	22	User Defined Red Flag 2			
99	23	User Defined Red Flag 3			
100	24	User Defined Red Flag 4			
101	25	User Defined Red Flag 5			
102	26	User Defined Red Flag 6			
103	27	User Defined Red Flag 7			
104	TOTAL - RED FLAGS				\$7,250,000
105					
106	SUBTOTAL - CONSTRUCTION COST with Red Flags				\$80,410,000
107					
108	MARKET ADJUSTMENT FACTOR		0%	\$80,410,000	\$0
109	SUBTOTAL - CONSTRUCTION COST with Market Adjustment Factor				\$80,410,000
110	Your CPES Estimate MUST be reviewed by a Process person AND an Estimator:				
111	Name of Process Reviewer			Goodwin	Click for Rev
112	Name of Estimator Reviewer			Bredehoeft	
113	MAXIMUM CONSTRUCTION COST				\$80,410,000
114					
115	NON-CONSTRUCTION COSTS:				
116	Permitting		2.0%	\$80,410,000	\$1,610,000
117	Engineering		10.0%	\$80,410,000	\$8,050,000
118	Services During Construction		8.0%	\$80,410,000	\$6,440,000
119	Commissioning & Startup		3.0%	\$80,410,000	\$2,420,000
120	Land / ROW		0.0%	\$80,410,000	\$0
121	Legal / Admin		0.0%	\$80,410,000	\$0
122	Other Default Description		0.0%	\$80,410,000	\$0
123	SUBTOTAL - Non-Construction Costs				\$18,520,000
124					
125	TOTAL - CAPITAL COST				\$98,930,000
126					
127	Currency Conversion of TOTAL CAPITAL COST:				
128		Currency	Unit of Measure	Conversion Rate	Converted Amount
129		None	U.S. Dollar	1	98,930,000

Amendment 73 to the Alabama Constitution

Jefferson County Sewer Bonds.

In addition to any indebtedness now authorized, Jefferson county may become indebted and may issue bonds therefor in an amount not exceeding 3 percent of the assessed valuation of the taxable property in said county in order to pay the expenses of constructing, improving, extending and repairing sewers and sewerage treatment and disposal plants in said county. Said bonds shall be general obligations of Jefferson county but shall also be payable primarily from and secured by a lien upon the sewer rentals or service charges, which shall be levied and collected in an amount sufficient to pay the principal of and interest on such bonds, replacements, extensions and improvements to, and the cost of operation and maintenance of, the sewers and sewerage treatment and disposal plants. Such sewer rentals or service charges shall be levied upon and collected from the persons and property whose sewerage is disposed of or treated by the sewers or the sewerage treatment or disposal plants and whether served by the part of the sewer system then being constructed, improved, or extended or by some other part of such system; and such charges or rentals shall be a personal obligation of the occupant of the property the sewerage from which is disposed of by such sewers or treated in such plants and shall also be a lien upon such property, enforceable by a sale thereof.

Before issuing any bonds or levying or collecting any such sewer service charges or rentals, the proposal shall first be submitted to and approved by a majority of the voters of the county voting at an election to be called by the governing body thereof. Notice of such election shall be given by publication once a week for four successive weeks immediately prior to such election in a newspaper published and of general circulation in Jefferson county. Such notice and the ballot shall set forth the purpose for which the bonds are proposed to be issued, the estimated cost of the proposed undertaking, the amount of bonds to be issued, the serial maturities thereof, and the maximum rate of interest such bonds are to bear, and a recital that the proposal includes the levying of sewer service charges or rentals to be secured by liens upon the property served. Such elections shall in all respects not herein otherwise provided be conducted and the results thereof ascertained and declared in accordance with the law then in force relating to county bond elections. If at any such election a majority of the voters vote in favor of the proposed undertaking and the bonds, the bonds so voted may be issued at one time or from time to time as the governing body of the county shall deem advisable.

With the prior approval of the governing body of any incorporated municipality therein, Jefferson county may take over, own, possess, control, expand, improve, maintain and operate any sewers or sewerage treatment or disposal plants of such incorporated municipality or, if such incorporated municipality has no sewers, Jefferson county may construct sewers therein. Such sewers and plants shall thereupon become a part of a combined and consolidated sewer system for Jefferson county.

The governing body of Jefferson county shall have full power and authority to manage, operate, control and administer the sewers and plants herein provided for and, to that end, may make any reasonable and nondiscriminatory rules and regulations fixing rates and charges, providing for the payment, collection and enforcement thereof, and the protection of its property. Liens for sewer rentals or service charges shall be foreclosed in such manner as may be provided by law for foreclosing municipal assessments for public improvements. This amendment is self-executing.

The authority to issue bonds shall cease December 31, 1958. The authority to levy and collect sewer charges and rentals shall be limited to such charges as will pay the principal of and interest on the bonds and the reasonable expense of extending, improving, operating and maintaining said sewers and plants; and when the bonds shall have been paid off, service charges and rentals shall be accordingly reduced, it being the intent and purpose of this amendment that the expenses of needed improvements and extensions and maintenance and operation of the sewers and sewerage treatment and disposal plants and no other expenditures shall be paid from such service charges and rentals.

Act No. 619

H. 1108—Adams (Jefferson), Meeks, Gibson,
Dumas, Kaul, Beatty

AN ACT

To supplement the Jefferson County Sewer Amendment to the Constitution of Alabama, effective on November 15, 1948, and to authorize Jefferson County to construct, improve, extend and repair sewers and sewerage treatment plants in said county and to levy and collect sewer rentals or sewer service charges as provided in such Amendment; to provide for a Board of Arbitration which shall have jurisdiction to review or revise rates or rentals or service charges fixed by said County Commission, provide for the method of appealing to said Board of Arbitration, and to provide the power and authority of said Board of Arbitration with respect to appeals to said Board of Arbitration from orders of the said County Commission fixing rentals or service charges; to authorize the collection of such rentals or charges either by suit against the occupant of the parcels of property charged therewith or by foreclosure of the lien of such rentals or charges upon such parcels of property; to authorize the county and the towns and cities within said county to make contracts for the disposal and treatment of sewerage originating in said towns and cities; to authorize the county commission of said county to enforce payment of such rentals or charges by cutting off connections with the county's sewer system and with any water distribution system supplying water to the parcels of property liable for such rentals or charges; to require cities, towns or other public corporations, and to permit other persons, to cut off connections of such parcels of property with their water distribution systems when requested by the county commission; to require cities, towns or other public corporations, or other persons to furnish information as to water furnished to parcels of property served by the county's sewer system; to provide for the method of foreclosing any assessments which remain unpaid, and to provide for the redemption from such assessment sales; and to authorize the county to make covenants or agreements with holders of bonds issued under the Amendment relative to the use of the proceeds of such bonds, the maintenance and operation of the county's sewer system, the charging and disposition of such revenues and other matters affecting the adequacy and enforcement of the lien of such bonds upon such rentals and charges.

Be It Enacted by the Legislature of Alabama:

Section 1. It is the intention of the Legislature by the passage of this act to supplement the Jefferson County Sewer Amendment to the Constitution of Alabama which became effective on November 15, 1948, and to enable Jefferson County to construct, improve, extend and repair sewers and sewerage treatment and disposal plants in said County and to exercise the power and authority given by such amendment to levy sewer rentals or sewer service charges upon and collect from the persons and property whose sewerage is disposed of or treated by such sewers or sewerage treatment or disposal plants and to make such rentals or charges a personal obligation of the occupant of the property the sewerage from which is disposed of by such sewers or treated in such plants and also a lien upon such property and to provide effective means for the collection of such rentals or charges and to insure that revenue derived from such rentals and charges is applied as provided in the Jefferson County Sewer Amend-

ment. This Act shall be liberally construed in conformity with such purpose.

Section 2. The County Commission of Jefferson County shall have the power to maintain and operate within said county a system of sewers and sewerage treatment and disposal plants (in this act sometimes referred to as "sewerage system") for the collection, treatment and disposal of sewerage and, for that purpose, to acquire, by purchase, gift, condemnation or otherwise, and to construct, reconstruct, improve, extend, maintain, repair, operate and use such lateral, trunk, intercepting and outfall sewers, conduits, pipe lines, pumping and ventilating stations, treatment plants or works, and such other plants or structures, as in the judgment of the County Commission are economically feasible and for which there is a reasonable sanitary need. Unless the context otherwise requires, the words "sewerage system" as used in this Act shall include the existing county system of sewers and sewerage treatment and disposal plants as well as future extensions and additions thereto. When used in this act the term "sewerage" shall include sewerage, liquid or solid wastes, night soil or industrial wastes; and the term "person" shall include a corporation as well as a natural person.

Section 3. Jefferson County is hereby authorized to make a contract or contracts with any city or town within the territorial limits of said county to dispose of or treat by means of the sewerage system of the county sewerage originating in such city or town; and all such cities or towns are hereby authorized to enter into such contracts with Jefferson County. Any such contract may be authorized by resolution duly adopted by such county commission and by ordinance duly adopted by the council or board of commissioners or other governing body of the city or town entering into such contract. Any such contract may be made with or without consideration and may contain provisions obligating the county to dispose of and treat all or any part of the sewerage originating in the city or town entering into the contract and obligating such city or town to permit the county to dispose of and treat such sewerage, either for a specific period of time or for unlimited time. Any such contract may contain other and different provisions relative to the kind and character of sewerage to be disposed of and treated and the compensation, if any, to be paid for such service.

Section 4. Said county commission is hereby authorized to levy sewer rentals or service charges (in this act sometimes referred to as "service charges") upon, and collect such service charges from, the persons and property whose sewerage is disposed of or treated by the sewerage system of the county, whether such persons or property are served by the part of the sewerage system then being constructed, improved or extended or by some other part of such system. Such sewer rentals or service charges may be collected from, and be a lien upon, any property served

by the sewerage system prior to as well as after the time when improvements financed by the issuance of bonds authorized under the Jefferson County Sewer Amendment to the Constitution shall be begun. Sewer rentals or service charges may be collected from, and become a lien upon, the property of any persons, firms, associations or corporations, including municipal corporations, boards of education, any county, the state of Alabama, or the Federal Government, or any board, bureau, branch, agency, or department of any municipal corporation, board of education, county, the State of Alabama, or the Federal Government, and churches and benevolent and charitable corporations, associations, and institutions of all character and kind. Said rentals or service charges shall be subject to review or revisions by the Board of Arbitration as provided for in Section 6.

Section 5. Such service charges, being in the nature of use or service charges, shall, as nearly as may be practicable and equitable, be uniform throughout the county for the same type, class and amount of use or service of the sewerage system, and may be based or computed either on the consumption of water on or in connection with the real property served, making due allowance for commercial use of water or for water not entering the sewerage system, or on the number and kind of water outlets on or in connection with such real property, or on the number and kind of plumbing or sewerage fixtures or facilities on or in connection with such real property, or on the number of persons residing or working on or otherwise connected or identified with such real property, or on the capacity of the improvements on or connected with such real property, or on any other factors determining the type, class and amount of use or service of the sewerage system, or on any combination of any such factors, and may give weight to the characteristics of the sewerage and other wastes and any other special matter affecting the cost of treatment and disposal thereof, including chlorine demand, biochemical oxygen demand, concentration of solids and chemical composition. Where the service charge is based upon the consumption of water alone, such service charge shall not exceed an amount equal to fifty per centum (50%) of the water bill rendered with respect to the property involved.

Section 6. (a) The county commission shall prescribe and from time to time when necessary revise a schedule of such service charges which shall, in any event, be such that the revenues derived therefrom will at all times be adequate but not in excess of amounts reasonably necessary to pay all reasonable expenses of operation and maintenance of the sewerage system, including reserves and insurance, and to make any necessary or appropriate replacements, extensions and improvements thereto, and to pay punctually the principal of and interest on any bonds issued by the county pursuant to the Jefferson County Sewer Amendment and to maintain such reserves or sinking funds therefor as may

be required by the terms of any contract made by the county commission to secure the payment of such bonds and the interest thereon. Such schedule shall thus be prescribed and from time to time revised by the county commission only after public hearing or hearings thereon which shall be held by the county commission at least seven days after such published notice as the county commission may determine to be reasonable. The county commission shall likewise fix and determine the time or times when and the place or places where such service charges shall be due and payable. The county commission is hereby authorized to require any person, as a condition precedent to using the sewer system, to make a deposit equal to the service charge which the county commission estimates will be made for a period not exceeding six months next succeeding the making of the deposit. A copy of such schedule of service charges in effect shall at all times be kept on file at the principal office of the county commission and shall at all reasonable times be open to public inspection.

(b) There is hereby created a Board known as the Board of Arbitration. Said Board shall consist of five members, each of whom shall be appointed by the county commission. The Chairman of the Board of Arbitration shall be elected by the members of said Board. All members of said Board shall be residents and qualified electors of Jefferson County, Alabama. One member of said Board of Arbitration shall be a banker, one member a certified public accountant, one member a licensed real estate broker, one member a graduate engineer, and one member shall be a commercial or industrial user of said sewer system. It is the intention of this act that in appointing said Board of Arbitration, the county commission shall make the appointments, insofar as practicable, so that different types or classes of users of the sewer system shall be represented on said Board of Arbitration. The five original appointments shall be made contemporaneously and prior to the collection of any service charge by the County. The five members originally appointed to the Board of Arbitration shall serve for the following terms: One member for a term expiring one year from the last day of the calendar month in which he is appointed; one member for a term expiring two years from the last day of the calendar month in which he is appointed; one member for a term expiring three years from the last day of the calendar month in which he is appointed; one member for a term expiring four years from the last day of the calendar month in which he is appointed; and one member for a term expiring five years from the last day of the calendar month in which he is appointed. Thereafter, each member appointed shall serve for a term of five years; provided, however, that any member appointed to fill the vacancy of an unexpired term shall be appointed only for such unexpired term. In making the original appointments, the county commission shall specify which member shall serve for the respective periods prescribed above for the initial terms.

Each member of the Board of Arbitration shall receive as compensation for his services a sum of Ten (\$10.00) Dollars per day for each day necessarily spent in active service. Subsequent to the twelve months period next succeeding the original appointment of said Board of Arbitration no member of said Board shall at any time receive in excess of One Hundred Fifty (\$150.00) during any period of twelve months for performing services under the provisions of this act. Said limitation, however, shall not apply during the first twelve months following the original appointment of said Board.

The Board of Arbitration shall hold its first meeting not later than thirty days following the appointment of said Board. Thereafter, the Board shall meet upon the call of the Chairman, or upon the call of any two members of said Board, and at such other times as may be prescribed by the rules adopted by said Board. Three members shall constitute a quorum of said Board. A majority of the members present shall control the actions of the Board. The Board shall keep, or cause to be kept, a record or minutes of its meetings and official proceedings, which record or minutes shall be open to public inspection.

Upon application made in writing to the Board of Arbitration by any user of the sewerage system, the Board of Arbitration shall review the rate prescribed for the class of users to which the applicant belongs. The applicant for review shall serve a copy of the application upon the county commission. The hearing or review shall be held at such time and place as the Board of Arbitration may prescribe. The Board of Arbitration shall have the authority to affirm or modify the rate reviewed by said Board, after hearing the county commission or its agent or attorney and after hearing the person making the application for the review or his attorney and any other interested parties.

Should the rate of service charge prescribed by the county commission be modified by the Board of Arbitration, such modification shall be effective from the date on which the application for review was filed with the Board of Arbitration by the applicant; but such modification shall not affect said rate prior to the date on which application for review was filed with the Board of Arbitration.

The Board of Arbitration shall have authority, subject to the approval of the county commission and civil service laws of the County, to employ such agents and deputies as may be necessary for the discharge of its duties. The compensation of such agents and deputies shall be fixed in accordance with the civil service laws of the County.

The County Commission shall furnish stationery, stamps, office supplies and office space to the Board of Arbitration.

The power and authority hereby conferred upon the Board of Arbitration shall be exercised in such manner as to assure that there shall be levied and collected rentals or service charges

in an amount sufficient to pay the principal and interest on bonds issued pursuant to the Jefferson County Sewer Amendment to the Constitution of Alabama, the cost of replacements, extensions and improvements to, and the cost of operation and maintenance of sewers and sewerage treatment and disposal plants, in accordance with the provisions of said Jefferson County Sewer Amendment.

Section 7. Any service charge for the use and services of the sewerage system in disposing of and treating sewerage originating from any parcel of real property shall be charged to such parcel of real property but shall be the personal obligation of the occupant of such parcel of real property. In the event that any service charge with regard to any parcel of real property shall not be paid as and when due, interest shall accrue and be due to the county on the unpaid balance at the rate of one per centum (1%) per month until such service charge, and the interest thereon, shall be fully paid to the county.

Section 8. The county commission shall keep and preserve a complete register, or registers, open to public inspection, of all service charges which have been charged by the county commission to any parcel of real property, or the occupant thereof, for the use and services of the sewerage system and which have become due and payable and have not been paid. Such register or registers shall be kept in such place or places as the county commission shall determine.

Section 9. In the event that any service charge charged to any parcel of real property owned by any person other than the State or any agency or subdivision thereof shall not be paid as and when due, the unpaid balance thereof and all interest accruing thereon shall be a lien on such parcel of real property. The lien provided for herein shall not accrue, or be effective as to, service charges aggregating more than a total of twelve (12) months sewerage service with respect to any property. Such lien shall be superior and paramount to the interest in such parcel of any owner, lessee, tenant, mortgagee or other person except the lien of State, County or municipal taxes, and except as hereinafter provided in this section; and such lien for said service charge shall be subordinate to the lien for State taxes and shall be on a parity with and deemed equal to the lien on such parcel of the county or any municipality in which such parcel is situate for taxes thereon due in the same year and not paid when due. Such lien shall not bind or be effective against a subsequent bona fide purchaser of such parcel for a valuable consideration, or against a bona fide mortgagee, nor against their interest in such parcel, unless and until a notice of such lien shall have been recorded in the office of the Probate Judge of Jefferson County as unpaid in the manner herein provided in this section. A certificate shall be filed by the county commission, or by its duly authorized agent, in the office of the Probate Judge of Jefferson County within one year from the due

date of the delinquent installment, showing the description of the parcel against which a lien is claimed on account of any unpaid service charge, the tax unit number of such parcel, the amount of said service charge which is unpaid, the date on which said service charge became due, together with a certificate to the effect that said service charge is due and unpaid. Any person or party who acquires an interest in or lien on such parcel after such certificate is so filed, shall be conclusively deemed to have acquired such interest or lien with notice of such assessment.

At least ten days prior to recording said certificate as hereinabove provided, the county commission shall cause to be mailed to the person last assessing said property for taxes in said county as shown by the records in the office of the Tax Assessor, a notice showing the amount of the service charge unpaid, the date on which said service charge became due, and the amount of interest due thereon. The failure to send such notice, or the failure of any owner of property to receive such notice shall not invalidate or in any wise affect the lien for such service charges.

Section 10. In the event that any service charge charged to any parcel of real property shall not be paid as and when due, the county commission may, in its discretion, enter upon such parcel and cause the connection thereof leading directly or indirectly to the sewerage system to be cut and shut off until such service charge and any subsequent service charge with regard to such parcel and all interest accrued thereon shall be fully paid to the county; provided, however, any such connection shall be restored, if the local Board of Health where such parcel is situate, shall, after public hearing, find and shall certify to the county commission that the continuance of such cutting and shutting off of such sewerage system endangers the health of the public.

Section 11. In the event that any service charge charged to any parcel of real property shall not be paid as and when due, the county commission may, in accordance with Section 12 of this act, cause the supply of water to such parcel to be stopped or restricted until such service charge and any subsequent service charge with regard to such parcel and all interest accrued thereon shall be fully paid to the county. If for any reason such supply of water shall not be promptly stopped or restricted as required by Section 12 of this act, the county commission may itself shut off or restrict such supply and, for that purpose, may enter on any lands, waters or premises of any municipality or other public corporation or other person. The supply of water to such parcel shall, notwithstanding the provisions of this section, be restored or increased if the local board of health where such parcel is situate, shall after public hearing find and shall certify to the county commission that the continuance of such stopping or restriction of the supply of water endangers the health of the public.

Section 12. Each city or town or other public corporation owning or operating any water distribution system serving three or

more parcels of real property in the county, and every other person owning or operating any such system may, and is hereby authorized to, enter into and perform a contract with the county commission that it will, upon request by the county commission specifying a parcel of real property in the county charged with any unpaid service charge under Section 7 of this act, cause the supply of water from its system to such parcel of real property to be stopped or restricted, as the county commission may request, until such service charge and any subsequent service charge charged to such parcel and the interest accrued thereon shall be fully paid or until the county commission directs otherwise. No such city or town or other public corporation or other person shall be liable for any loss, damage or other claim based on or arising out of the stopping or restricting of such supply, and the county commission shall pay the reasonable cost of so stopping or restricting such supply and of restoring the same and may agree to indemnify such city or town or other public corporation or other person from all loss or damage by reason of such stopping or restriction, including loss of profits.

Section 13. In the event that any service charge charged to any parcel of real property shall not be paid as and when due, the unpaid balance thereof and all interest accrued thereon, together with recording fees and court costs, may be recovered by the county commission in a civil action against the occupant of such parcel, and any lien on such parcel of real property for such service charge and interest accrued thereon may be foreclosed in any such manner as may be provided by law for foreclosing municipal assessments for public improvements. Neither of the foregoing remedies shall be exclusive of the other; and the said county may pursue either of said remedies separately, or both of said remedies simultaneously, until the full amount of the charges, interest, court costs, and recording fees have been collected. The owner of the property, his wife, or child, or any grantee thereof, or any person having a lien thereon, shall have three years from the date of such sale in which to redeem from such sale. The right of redemption shall be exercised by paying to the Chief Clerk of the County Commission the amount of the bid at such sale, interest thereon at one per cent per month from the date of the sale, the costs of sale, and a fee of \$1.00 for the Redemption Deed, and thereupon the county commission shall deliver to the person effecting the redemption a Redemption Deed executed in the name of the County by one of the members of the county commission.

Section 14. Each city or town or public corporation and other person owning or operating any system of water distribution serving three or more parcels of real property in the county shall, from time to time after request therefor by the county commission deliver to the county commission a statement or statements showing the amount of water supplied to every such parcel of real

property as shown by the records of such city, town, public corporation or person. Such statements shall be delivered to the county commission within ten days after request is made for them, and the county commission shall pay the reasonable cost of preparation and delivery of such statements. The occupant of every parcel of property the sewerage from which is disposed of or treated by the sewerage system of the county shall, upon request therefor by the county commission furnish to the county commission information as to the amount of water consumed by such occupant or in connection with such parcel and the number and kind of water outlets, and plumbing or sewerage fixtures or facilities on or in connection with such parcel and the number of persons working or residing therein.

Section 15. Said county commission is hereby authorized to make any reasonable and non-discriminatory rules and regulations with respect to the kind and character of sewerage or wastes which shall be permitted to flow into the sewerage system of the county and the making of connections thereto, and to enforce compliance with such rules and regulations by cutting or shutting off the connection with the sewerage system in the event of any violation of such rules and regulations.

Section 16. In order to afford to the holders of any bonds which the county may issue pursuant to the Jefferson County Sewer Amendment of the Constitution of Alabama, adequate remedies for the enforcement of the lien of such bonds upon such service charges provided for by such Amendment, the county commission shall have power, by provision contained in any resolution or resolutions adopted prior to the issuance of such bonds, to covenant and agree with the several holders of such bonds as to,

(1) the custody, use, expenditure or application, and the securing of the deposit, of the proceeds of the bonds;

(2) the construction and completion, or replacement, of all or any part of the sewerage system;

(3) the use, regulation, operation, maintenance, insurance or disposition of all or any part of the sewerage system, or restrictions on the exercise of the powers of the county to dispose, or to limit or regulate the use, of all or any part of the sewerage system;

(4) payment of the principal of or interest on such bonds, and the sources and methods thereof, the rank or priority of any such bonds as to any lien on service charges;

(5) the use and disposition of any revenue derived from service charges for the use or services of all or any part of the sewerage system, including any parts thereof theretofore constructed or acquired and any parts, extensions, replacements or improvements thereof thereafter constructed or acquired;

(6) pledging, setting aside, depositing or trusteeing all or any part of such revenue from service charges to secure the payment of the principal of or interest on such bonds, or the payment of